

Chapter 6

Marine Habitat and Fisheries

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6.1 Primary Issues

Comment C-6.001

The DEIS does not address the incremental loss of nearshore habitat as a major threat to Puget Sound, or how this project would be consistent with taxpayers funds spent for restoring and protecting Puget Sound. The DEIS does not recognize that preservation of existing habitat is the most cost-effective course of action. The DEIS does not discuss the implications of the project on the poor or declining condition of marine species; loss of nearshore as a factor in the decline of two species of salmon; impact on Pacific cod; how marine traffic contributes to the decline of harbor porpoise; the effect of artificial lighting and noise on marine life; impact on marine birds; ecological functions of the unvegetated bottom interspersed with eelgrass; and how the project will comply with the Magnuson-Stevens Fisheries Management and Conservation Act, and the Puget Sound Water Quality Action Teams Work Plan.

Vashon-Maury Island Community Council

Response

The FEIS includes supplemental information and analysis regarding impacts to nearshore habitat. Additional analysis of the scale of potential impacts to nearshore habitats from the proposal, in the context of regional incremental loss of nearshore habitat, is included in the FEIS Section 6.5. The project as proposed could impact nearshore habitat and individuals of some species of concern.

6.2 Affected Environment

6.2.1 Physical Components

Area Examined in Affected Environment

Comment C-6.002

The nearshore area analyzed is too narrow and inconsistent with the definition used by the Washington Nearshore Habitat Loss Work Group, nor is it consistent with detailed assessment of all marine resources and habitats...

Vashon-Maury Island Community Council

Response

The affected environment addressed in the DEIS included a 200-foot buffer from the beach inland out to the subtidal zone (-50 feet MLLW). The Washington Nearshore Habitat Loss Workgroup defines marine nearshore habitats as follows:

Marine nearshore habitats lie along the shoreline and include the strip of shallow water and the land immediately adjacent to shoreline. ... focuses on the marine nearshore area 200 feet landward of the ordinary high-water line to the shallow subtidal zone. The 200-foot distance correlates with the area of land that falls within the jurisdiction of the state's Shoreline Management Act. It includes uplands where activities occur that significantly affect nearshore habitats. Tidally influenced areas of river mouths are also included.

Comment G-3.017

#17 Section 6.2.1 states that "The bottom gradually slopes from the shoreline to the seaward edge of the dock, at which point the bottom drops off steeply at about -17 MLLW." While this may be true, it is only true in the vicinity of the dock. The adjacent beaches continue to slope more gently, creating excellent habitat for eelgrass. It's unclear if the drop at the dock is natural or due to past dredging. Either way, the tunnel vision of the DEIS on the vicinity of the dock is carried through in Figures 6-1 and 6-2.

People for Puget Sound

Response

The figures from the DEIS have been revised. Figures 6-2a and 6-2b in the FEIS show seafloor contours. The contours in Figure 6-2b indicate an undulating seafloor, with shallow subsurface ridge extensions occurring several times within and several hundred feet beyond the site. In addition, a new color map of the seafloor surface has been added to the FEIS (Figure 6-3). There is no evidence that bathymetry drops are due to past

dredging activity. Furthermore, gross bathymetry data, taken from the Puget Sound Environmental Atlas, indicate a narrow and steep shelf and shelf break for the whole southwestern region of Maury Island.

The evaluation of seafloor in the FEIS is consistent with the definition of *seafloor* noted in the comment above.

Habitat Alterations from Past Spills

Comment C-6.003

The text and figure 6-1 showing the location of the sand and gravel below the conveyor are inconsistent. The DEIS does not address the probability that this is normal spillage during barge loading. The DEIS does not address the probability that the second shallow extension of the inshore bench is from barge spillage which was moved by currents.

Vashon-Maury Island Community Council

Comment C-8.042

Accurately portray the depths at the end of the conveyor where the barges will be loaded, and diagram the staging and loading of barges. The offshore environment (water depths under the conveyor and off the pier) described in the Expanded Environmental Checklist differs from that described in the EIS.

Vashon-Maury Island Community Council

Comment O-1.255

It appears from the expanded SEPA Checklist that directly beneath the end of the conveyor is a large mound of sand and gravel with the shallowest point, -18 MLLW, located directly beneath the end of the conveyor and at 40 feet out from the pier line, the water depth was only -22 feet MLLW. Please explain why Jones & Stokes statements in this section claim that the depth below the end of the dock is 29 to 41 feet deep at MLLW. Are the statements in the expanded SEPA Checklist wrong or is the statement concerning end of dock depths by Jones & Stokes erroneous? How can the public and decision makers have any confidence in the factual accuracy of the DEIS when there is such wide disagreement between the figures in the expanded SEPA Checklist and the Jones & Stokes DEIS?

Ortman, David

Response

The FEIS includes seafloor contours in Figures 6-2a and 6-2b derived from eelgrass surveys conducted at the site. A three-dimensional color view of the nearshore seafloor has been added to the FEIS (Figure 6-3). It is not known whether the gravel accumulation at the end of the dock resulted from “normal”

spillage, a single large spill, or several smaller spills. The DEIS stated that the shallow bench located approximately 360 feet north of the conveyor is similar in sediment characteristics to the areas around it and not similar to the gravel accumulated at the end of the dock, suggesting it is a natural extension of the beach and not a spill. This conclusion is supported further by Figures 6-2b and 6-3, which show several shallow extensions in the nearshore environment within and beyond the site. These ridges are probably either erosional or depositional landforms controlled by natural geological processes rather than spillage from past mining activity.

The FEIS includes further analysis (Section 6.3.2) and additional mitigation measures (Section 6.4.3.11) to address the impacts of spills around the conveyor and at the end of the dock.

Predation Caused by Artificial Structures

Comment C-6.005

The DEIS does not consider human-made features may harbor unnatural concentrations of predators, upsetting the natural balance and increasing vulnerability of salmon, herring, smelt, sand lance, and other organisms to further human activity.

Vashon-Maury Island Community Council

Response

Further discussion about human-made features has been included in the FEIS, Section 6.2.2.7. Dock structures are known to have a “reef effect”, providing habitat for species not commonly found along sandy shorelines, including potential predators of juvenile salmon. Whether removal of old pilings (current established “reef” or piling communities) and replacement with new pilings (available unoccupied piling habitat) would increase or decrease the vulnerability of salmon, herring, surf smelt, sand lance, and other organisms cannot be predicted. Replacement of old habitat may displace some predators, but will obviously provide new habitat for recolonization as individuals start to utilize this space. Since the proposed action is repair and replacement and not new additions, the net change of habitat should be zero. If steel or concrete pilings are used, as would likely be required to avoid creosote contamination, fewer pilings may be necessary, thereby decreasing potential predator habitat.

Condition of the Dock

Comment C-8.079

(part 2 of 3 and repeated in 6.3.1) The report says that about 25% of the decking, stringers and planking would be replaced on the dock. This replacement should be evaluated with regard to shading of the eelgrass beds directly under the dock. Please clarify as to the source of this evaluation and the relationship of General Construction Company with Lone Star N W and Jones & Stokes.
Vashon-Maury Island Community Council

Comment C-8.079

(part 3 of 3) Please provide information as to which engineering firm Jones & Stokes retained to obtain an independent evaluation of the condition of the dock, including whether core samplings were taken from the dock and whether worm damage was analyzed and what conclusions were reached. If such analysis did not occur, please obtain it.
Vashon-Maury Island Community Council

Response

See FEIS Sections 2.2.3.6 and 6.3.8 for an evaluation based on an independent assessment of dock repairs likely to be necessary. See also Appendices F, G, and H. The dock assessment conducted on behalf of King County addresses the following questions:

- Approximately how many pilings would need to be replaced on the dock, fenders, and dolphins to make the dock capable of operating as proposed by the Applicant?
- Assuming relatively constant use, approximately how often would repairs need to be conducted and what would be the extent of those repairs?
- Over the long run, would replacement of the existing dock with a new, low-maintenance dock require less in-water work than repair and maintenance of the existing dock?

Section 6.3.8 also has additional analysis of the potential impacts of shading from dock repairs.

Comment

8 (of 22). Section 2.2.3.6, please note the location of eelgrass beds, lingcod habitat in relationship to the repairs/new pilings. Please provide a detailed drawing showing the littoral drift for the site, specifying how repairs will be made to ensure the eelgrass beds/lingcod habitat/herring habitat is protected.
Nelson, Sharon K.

Response

This information is provided in Chapter 6 of the FEIS.

6.2.2 Biological Components

Comment O-1.264

Table 6-1 p. 6-23 What is the typical plant and animal life of the spilled sand and gravel mound at the end of the dock?
Ortman, David

Response

The community on the spilled sand and gravel mound is similar to the community on the surrounding sand. This includes various seastars, algae (primarily *Laminaria*), and bivalves. The spilled substrate does not cover a large enough area and is not sufficiently different in habitat function to alter community structure. For further information on typical intertidal and subtidal communities as well as factors that control community structure, refer to standard marine biology references (e.g., Lerman 1986, Kozloff 1983).

Comment A-2.007

6.6.2 Biological Components: the nearshore environment contains a variety of marine fish and invertebrate species. During the WDFW site visit, schools of forage fish were observed immediately adjacent to the pier. In addition, two eelgrass/macroalge surveys were conducted by Jones and Stokes Associates on July 24 and August 1, 1999. Eelgrass, macro algae, diatoms, kelp, shiner perch, pile perch, brown rockfish (candidate for ESA listing) and English sole (listed under the Priority Habitats and Species list as vulnerable to habitat loss and degradation) were all classified as being “commonly observed” during the dive surveys. Sand lance were classified “abundant” in the area. In addition, four Chinook salmon (age 0+) were observed during the dive survey. Listed below are a few species that will be of special concern to WDFW because of Endangered Species Act (ESA) considerations or because of their ecological importance in the region, i.e., food prey for listed species or their general importance in the food chain.

Washington Department of Fish and Wildlife

Response

Chapter 6 of the FEIS includes additional information regarding the species identified by the WDFW, including the existing environment that would be affected by the proposal, significant impacts of alternatives including the Proposed Action, and reasonable measures that would significantly mitigate these impacts. Further detailed responses are given below under each of the species of concern.

Eelgrass

Comment C-8.045

The value of eelgrass is not properly stated in the EIS. The role of *Zostera marina* in sediment stabilization, retardation of current flow, recycle of nutrients should be included in addition to further review of importance to invertebrates, shellfish, and waterfowl. Basic information regarding its growing and reproductive habits, and the relationship of water temperature, salinity, substrate, pH, water circulation, and light attenuation should be included in the EIS.

Vashon-Maury Island Community Council.

Response

Chapter 6 of the FEIS includes additional information about the role of eelgrass and its requirements as potentially affected by the Proposed Action. However, for a full description of the ecological role, basic life history, and physiological requirements of eelgrass, please refer to general marine biology textbooks or references (such as Phillips 1984).

Comment

13 (of 22). Please prepare a study that shows what nutrients the eelgrass beds at the site have for chinook salmon, sand lance, and other species. It is my understanding that in the Skagit small beds were found to be extremely important due to the fact they were such a rich food source. Studies need to be completed on these beds over the course of the next two years.

Nelson, Sharon K.

Response

Many studies refer to the role that eelgrass plays as habitat for a diverse array of species. The FEIS recognizes the important role of eelgrass at the site, and analyzes the impacts accordingly. No further study is needed to document the importance of eelgrass.

Eelgrass Surveys

Comment A-1.009

(part 2 of 2). The assumption of -22 ft MLLW limitation will need to be supported by actual vegetation surveys, which we understand have been completed. Distribution of the current eelgrass surveys to all interested agencies prior to these comments would have enabled more informed comments.

Washington Department of Natural Resources

Comment C-8.039

Not to have eelgrass surveys available for this comment period is not acceptable. The assessment of marine resources is not acceptable (reference to comments on Dupont DEIS). The DEIS is inadequate and a revised DEIS or supplement should be provided for public comment.

Vashon-Maury Island Community Council

Comment

The eelgrass will suffer. The eelgrass is vitally important to salmon because the young salmon feed on them.

Bennett, Dr. Forrest C. and Barbara

Comment

The Nearshore environment is a key to restoring salmon in the Pacific Northwest and yet Lone Star's draft environmental impact statement failed to provide an adequate study of that environment. With the recent low tides, the Lone Star Nearshore environment was studied and the proliferation of eelgrass documented. Further study of the eelgrass over the course of the next year should occur to substantiate its ongoing growth. Repairs to the dock as well as the proposed barging operation of the mine would destroy this salmon habitat.

Saunders, Karen and Peter

Comment

The draft EIS concludes that there will be no significant impact on the eel grass beds which provide salmon habitat. In fact, the County's consultants have not yet completed (or perhaps even started) their study of the eel grass beds. How can the County's consultants publish a draft EIS before the studies on which it is based are completed? More importantly, how can the public be expected to respond to a draft EIS when the supporting studies have not been completed? The draft EIS also states that no silt and gravel will be spilled onto the eel grass beds during the process of loading the barges. This is a remarkable assumption, particularly in light of the fact that Lonestar has not even identified the type of vessels that will be used to barge the gravel.

Boyle, Karen

Comment

This mining site has not barged material for 20 years. Eel grass beds have re-established and are flourishing. These eel grass beds, which are critical to juvenile chinook salmon, will be destroyed if Lone Star N.W. commences barging from Maury Island. Since chinook are an endangered species, it is extraordinarily irresponsible to allow the destruction of these beds which protect the young salmon from predators and provide food.

Means, Gary

Comment

We are very concerned, for today's comment, about the potential impacts to chinook salmon, a species protected by the Endangered Species Act, who feed on smelt and other small fish that live in eelgrass beds established at the Lonestar Mining Site. Prop wash from the barges will block sunlight needed for eelgrass to grow, and fish will not try to eat or stay in a habitat constantly being churned and polluted by barging fuel or oil discharge. How can the county approve this mining operation when, according to Mayor Schell, the entire Puget Sound is trying to preserve salmon habitat, not destroy it as Lonestar would!

Huggins, Amy and Alan

Comment

It is very troubling to us that the DEIS was issued before the necessary survey of the eel grass beds had been conducted. It states in the report that results will be detailed in the final EIS (page 6-4). On August 1 of this year, we were conducting our survey when we saw divers. They were doing the survey of these beds. Why wasn't the draft of the EIS not issued until this information was gathered? As this is one of the most crucial points, it certainly appears that Lone Star deliberately did not have this issue reported on a timely matter so people could comment on the findings at the public hearing.

Rossi, Michael and Marlene

Comment

The comment period for the Draft EIS is almost over, but the eelgrass study won't be out for some time. In practical terms, the Draft EIS was significantly incomplete — we can't comment on a report that wasn't included. Does this mean that the eelgrass study, one of the most controversial issues that was supposed to be addressed in the EIS, escapes the scrutiny of the rest of the Draft EIS? Will the issuance of the Final EIS be put off until the eelgrass study is published and reviewed?

Putnam, Joshua

Comment C-1.003

Provide a revised DEIS for public comment which includes the most recent eelgrass/microalgae study.

Nelson, Sharon K.

Comment O-1.263

p. 6-18. This section states that eelgrass and bull kelp surveys will be conducted between June 1 and October 1. Since the DEIS was issued near the end of July, why are no survey data included in the DEIS? How are the public and decision makers suppose to review impacts to eelgrass and bull kelp when survey information is not included in the DEIS?

Ortman, David

Comment G-3.018

(part 7 of 8) NMFS has promised a decision on the petitioned listing of Pacific herring by February 8, 2000. Eelgrass losses are notoriously difficult to mitigate for—mitigation at other projects has required five years of documented growth and proven herring spawning before commencement of the proposed activity. At the very least, this section should include two years of survey information of both eelgrass and kelp to establish a baseline, a full discussion of past spilling and dredging, and full monitoring and contingency plans.

People for Puget Sound

Comment

I am particularly concerned about degradation of the marine environment. What is the base line for measurement of the eel grass beds? Presumably there should be a survey of boundaries, plant health and density that could be periodically reviewed. The beds could be rapidly destroyed. Given the history of enforcement, we might forecast an inspection with no adequate base line, a protracted argument over whether degradation was really occurring, then development mitigation proposals for action at some future date. It is easy to see this entire procedure might take two or three years to creep through the bureaucratic process, by which time degradation and fisheries losses may be irreversible or take many years for recovery. Perhaps the only mitigation that would succeed is a complete stop to pit operations.

Putnam, Keith

Comment G-2.016

16. 6 2 2 1 To effectively evaluate the locations of eelgrass on site, full disclosure of all information should be available prior to the close of the comment period for the DEIS. According to the information provided, eelgrass surveys will be completed between June and October. How are we to comment? If eelgrass beds exist in different locations or quantities this is important information for evaluating local fish spawning habits. At the very least, a supplemental EIS should be required to address the full extent of project impacts on eelgrass.

Washington Environmental Council

Comment I-11.005

The DEIS reports on the location of eelgrass beds in the Lone Star nearshore environment were conducted in winter ... eelgrass blooms in the summer and this report does not show eelgrass at its maximum.

Parrish, Elizabeth/Rees, John

Comment G-3.018

(part 5 of 8). The lack of a full summer survey of known adjacent eelgrass beds is unacceptable, considering that tug traffic will very likely be directed over these beds.

People for Puget Sound

Comment I-17.033

... purported compliance with this requirement [Table 6-2, point 7] ignores possible damage to the eelgrass that is found under the pier.

Putnam, Joshua

Comment C-8.044

Change Section 6.2.2 to reflect eelgrass information obtained from the diver survey shown in the 8/31/99 report. Note that report stated no eelgrass was found at the end of the pier and dolphins, yet Figure 2 shows eelgrass near the dolphins. The EIS should discuss the relationship of the eelgrass beds to dolphins which must be replaced or repaired, and diagrams should show their relationship to barge staging. Provide a complete discussion of these eelgrass bed locations and susceptibility to damage from tug/barge operation and dock/pier/dolphin repairs.

Vashon-Maury Island Community Council

Comment

12 (of 22). Chapter 6 regarding eelgrass should indicate that the eelgrass study shown was done outside Washington Department of Fish and Wildlife guidelines and therefore the study should not have been included in the DEIS. A minimum of two years of studies, which conform to WDFW guidelines, to determine the growth and/or stability of the eelgrass beds. Please note in the DEIS what impacts the 1992 activity at the site (pile driving/repairs without permit — exempted after repairs were reported), could have had on the eelgrass population. Please diagram the areas at the site at which eelgrass has viable environment to grow.

Nelson, Sharon K.

Response

In response to these comments, the eelgrass analysis has been reevaluated and supplemented for the FEIS. See the FEIS Sections 6.3.1–6.3.4, and 6.3.8 for additional analysis and discussion of potential impacts to eelgrass. Figure 6-2a indicates the location of eelgrass at the site, based on the eelgrass surveys completed on July 24 and August 1, 1999, following the guidelines provided by WDFW. The eelgrass surveys were timed to coincide with the greatest annual extent of eelgrass coverage at the site. The surveys also included a control site, located about 200 feet northeast of the end of the survey area, for future comparison and monitoring. Further mitigation and monitoring plans are provided in FEIS Section 6.4. Figure 6-2b indicates eelgrass distribution based on side-scan sonar surveys completed for the Washington Department of Ecology.

Analysis of impacts due to past activities is outside the scope of an EIS. The effects of pile-driving on eelgrass are discussed in Section 6.3.8 of the FEIS.

Location of Eelgrass

- Comment O-1.256** p. 6-3. This section states that eelgrass grows in the area at the end of the conveyor. How much eelgrass grows in this area?
Ortman, David
- Comment O-1.017** It states that there are patches of eelgrass present landward of the barge loading dock. What are the locations and size of these eelgrass patches?
Ortman, David
- Comment I-21.031** ...the EIS shows two small eelgrass beds, but does not show two much larger beds nearby and within and beyond the Lone Star site.
Baker, Alby
- Comment I-17.023** Use of Puget Sound Environmental Atlas, 1992, may be inadequate at this site ... it [eelgrass] has recovered during this decade.
Putnam, Joshua
- Comment O-1.254** 6.2.1 p. 6-2 This section states that eelgrass and associated communities typically do not occur at depths of -22 feet or greater. Do they occur at this depth or greater at this site?
Ortman, David
- Comment G-3.018** (part 4 of 8). It is entirely possible that eelgrass was growing in the dock area previously, and has been trying to migrate back into that area during the lull in barging activity during the past 20 years. These issues need to be fully discussed.
People for Puget Sound
- Comment C-6.006** The DEIS does not address that eelgrass patches are remnants of a major bed damaged prior to 1979, the rate that they have been recovering, and the impact on the recovery rate of resuming barging at more than four times past peak activity. The DEIS does not address the loss of 30% historic eelgrass beds in Puget Sound, nor the need to halt or reverse this trend, nor the implications of this proposed project.
Vashon-Maury Island Community Council
- Comment** There is an area of sensitive eelgrass habitat around and under the dock (33% of eelgrass beds in Puget Sound are gone because of development).
Parker, David M.
- Response** Figures 6-2a and 6-2b in the FEIS show the extent of eelgrass coverage documented at the site. Substantial annual variation in the size and location of eelgrass beds has been reported at

monitoring sites in many locations in the Pacific Northwest. A control area was established and surveyed to assist in separating interannual variation in eelgrass patch sizes from project-specific effects. Additional mitigation in the FEIS Section 6.4 includes future monitoring at the site. The additional mitigation is designed to result in no net loss of eelgrass habitat for the area, although a temporary net loss is likely due to the time lag between the impact and mitigation. The determination of the historical extent of eelgrass coverage, prior to original mining activity, is beyond the scope of the EIS.

Comment G-3.018

(part 2 of 8). The issue of bioturbation as a result of the original dock is completely ignored.
People for Puget Sound

Response

The effects of bioturbation on eelgrass are noted in Section 6.2.2.7 of the FEIS.

Comment G-3.018

(part 6 of 8). The DEIS states many times that prop wash will not be directed toward shore, as if this fact would minimize prop wash and scouring. Obviously, barges will approach and depart parallel the dock—which would take them directly over areas at or above 22 feet MLLW both to the north and to the south. (The elevations presented in Figure 6-1 are off by at least 15 feet.) If, as this section states, “this assessment is based on the assumption that all potential areas of eelgrass (all areas up [sic] to -22 feet MLLW) contain eelgrass,” then it is absurd to conclude that “significant unavoidable adverse impacts on the marine environment are not expected.”

People for Puget Sound

Comment

1.6.1 The landward eelgrass beds again raise the question of the ability of tugs to maneuver their barges without directing propwash in the direction of the grassbeds.

Kuperberg, J. Michael, Ph.D.

Comment

6.7.5 Again, the question of propwash.

Kuperberg, J. Michael, Ph.D.

Response

Additional analysis of the effects of prop wash is presented in Section 6.3.4 of the FEIS. Further review of literature on the tolerance of eelgrass to elevated currents suggests that potential impacts could occur if tug approach and departure proceeded in an

unrestricted manner. Additional mitigation measures are proposed in Section 6.4 of the FEIS to avoid and minimize these effects.

Comment

Table S5 Section entitled “Barge shading is not expected” Is it reasonable to expect that tugs can (and will) operate without directing any prop wash either inshore or toward an existing eelgrass/kelp/clam bed? How will this be verified? What number of violations of this assumption will trigger remedial action? If it is known that “no eelgrass or kelp is present”, why are “additional surveys” scheduled?

Kuperberg, J. Michael, Ph.D.

Response

Section 6.4 of the FEIS discusses mitigation measures to minimize the effects of prop wash on sensitive habitats, including eelgrass. Additional surveys were completed to establish eelgrass growing locations during the maximum growing season and to establish a control transect for later monitoring.

Geoducks and other Shellfish

Comment A-2.012

Geoducks: geoducks at this site are part of the 149-acre Maury Island geoduck tract. The WDFW monitors this site to determine if density of clams are sufficient for harvest. The WDFW may require additional monitoring at this site to ensure that no-net-loss of clams occur due to gravel spillage.

Washington Department of Fish and Wildlife

Response

Section 6.3.6 addresses geoduck harvesting by the Puyallup Tribe and Section 6.3.2 discusses the impacts of potential gravel spillage. Additional mitigation measures to avoid or minimize gravel spillage have been included in Section 6.4.

Comment I-17.026

... claims that there are no recreational shellfish beaches (see also 12.2)

Putnam, Joshua

Response

Although the beaches at the site may be used periodically for recreational collection of shellfish, they are not designated or monitored as such by the Washington State Department of Health. Section 6.2.3.1 of the FEIS has been modified to indicate use by residents and visitors.

Comment C-8.047

Reflect information from the Jones & Stokes report on 8/31/99 regarding the fact that piddock and geoduck clams were found most abundant under the pier. Discuss their value as resources under the SMA, and impacts barging and dock/dolphin repair would have, impacts of a spill, and the pan/spill tray.
Vashon-Maury Island Community Council.

Comment I-17.031

The DEIS misstates the habitat of bivalve mollusks as being only the offshore subtidal zone. ... there are large populations of bivalve mollusks in the intertidal and near-shore subtidal zones.
Putnam, Joshua

Comment I-17.032

... exclude larger crab in the species found in both near shore subtidal and offshore areas ... mostly red rock crab but also some Dungeness.
Putnam, Joshua

Response

Tables 6-1, 6-3, and 6-4 in the FEIS indicate observed locations of bivalves and crabs at the site. Additional analysis of impacts to shellfish resources from spillage and dock construction is provided in FEIS Sections 6.3.2 and 6.3.8, respectively.

Herring, Surf Smelt, and Sand Lance

Comment G-3.018

(part 8 of 8). A decision on this permit should be held until NMFS has completed their assessment of the status of Pacific herring and until the 4(d) rule has been issued for Puget Sound chinook salmon.
People for Puget Sound

Response

Per King County Code, King County will not issue a grading permit until all other state and federal approvals are granted. The issue related to the 4(d) rule will be addressed by NMFS, either through consultation with the U.S. Army Corps of Engineers or directly with the Applicant. King County is reviewing salmon issues related to this project in detail and many mitigation measures have been developed to protect the marine habitat, which includes habitat for threatened chinook populations.

Comment A-1.005

Section 6.2.2.4 p. 6-3 Herring are important forage fish and are among the protected species along with their habitat. Since it is likely that herring spawn in the eelgrass and on other substrates in the nearshore habitat at this site, a current biological survey for

herring spawn is needed. However, we must assume use of this habitat by herring, regardless of the results of a survey, and include it's monitoring and protection in the plan to prevent impact to be approved by DNR and King County.

Washington Department of Natural Resources

Comment G-3.020

20. 6 2 2. Herring, Surf Smelt and Sand Lance. It is important to note that the WDFW report cited in this section was not comprehensive. It is erroneous and misleading (not to mention equivocal) to state that Pacific herring spawning areas have not been identified "at the site itself," since neither the applicant nor WDFW nor anybody else has surveyed for herring, surf smelt or sand lance spawning at this site. Citizen Shoreline Inventory data suggests that the appropriate spawning substrate and vegetation for these species occur in abundance on this site.

People for Puget Sound

Comment C-8.048

Change the EIS to reflect the proposed listing of Pacific herring and describe additional studies needed of the Quartermaster stock and the site to determine their use of the site.

Vashon-Maury Island Community Council

Comment G-2.017

17. 6 2 2 4 What studies where used to monitor Pacific herring spawning practices? If the fish have been identified in the vicinity of the Lone Star Northwest dock and they are known to spawn in or near "other materials such as pilings and docks" it would also seem a possibility that they would be spawning in nearby eel grass beds located on the site. Further defined study and information is necessary for this threatened fish.

Washington Environmental Council

Comment O-1.259

p.64 What are the estimated number of herring that utilize this site?
Ortman, David

Comment C-1.003

Impact to spawning of herring, sand lance and surf smelt should be required for the revised DEIS or the FEIS.

Nelson, Sharon K.

Comment

The heavy barging schedule poses a threat because the adult herring gather in a holding area before spawning. Their holding area locally is the water around the southern end of Maury Island, wrapping around the shoreline past Summerhurst and Sandy Shores to the edge of the Lone Star land. If barges disturb the herring, will they disperse instead of spawning? Activity at the site has the potential to disrupt the herring spawning process for all of Maury and Quartermaster Harbor.

Chilbert, Mark

Response

Additional analysis of potential impacts to herring is provided in FEIS Sections 6.2.2.3, 6.3.4, and 6.3.7, based on the assumption that herring could use the site for spawning. Factors controlling herring spawning site selection are poorly understood. It is clear that potential spawning habitat does not translate into spawning use. The site does not fall within the herring spawning grounds delineated in the Puget Sound Environmental Atlas (PSEP). Of course the PSEP delineation does not necessarily identify all spawning sites, due to lack of study or changes in distribution since the study was made. However, the site of the Proposed Action is marginal for herring spawning in comparison with other nearby traditional spawning grounds (Quartermaster Harbor). It is possible that the site is used during years of peak herring abundance or as a site for “strays” from the main spawning site. The Quartermaster Harbor herring stock is considered to be “healthy” by WDFW.

Section 6.4.3.17 recognizes that herring spawning at the site may be affected. However, it is unlikely that spawning in Quartermaster Harbor would be influenced by the project activity. The pre-spawning holding area for the Quartermaster Harbor stock is located near the southeast shore of Maury Island. The East Passage shipping lanes also pass through this area, within several hundred feet of the holding area. Approximately 13 vessels per day transit through East Passage in these shipping lanes. It is highly unlikely that project-generated barges (several thousand yards to the north) would disturb herring in the pre-spawning holding area.

Comment A-1.007

Section 6.2.2.5 p. 6-5. Surf smelt are important forage fish and are among the protected species along with their habitat. Since it is likely that surf smelt spawn in the intertidal zone near the project site where appropriate substrate is available, a current biological survey for surf smelt spawn is needed. However, we must assume use of this habitat by surf smelt, regardless of the results of a survey, and include it’s monitoring and protection in the plan to prevent impact to be approved by DNR and King County.

Washington Department of Natural Resources

Comment A-1.008

Section 6.2.2.6 p. 6-5. Sand lance are important forage fish and are among the protected species along with their habitat. Since it is likely that sand lance spawn in the intertidal zone near the project site where appropriate substrate is available, a current biological survey for sand lance spawn is needed. However, we must assume use of this habitat by sand lance, regardless of the

results of a survey, and include its monitoring and protection in the plan to prevent impact to be approved by DNR and King County.
Washington Department of Natural Resources

Comment O-1.260

6.2.2.5 p. 6-5. Will surf smelt be surveyed as part of the eelgrass surveys mentioned in this section?

Ortman, David

Comment O-1.261

p. 6-5. Will sand lance be surveyed as part of the eelgrass surveys mentioned in section?

Ortman, David

Comment C-8.052

Provide a more extensive analysis of the potential for spawning and spawning adult sand lance based on the “large schools” identified in the 8/31/99 report by Jones & Stokes. Further discuss impacts to sand lance and what effects their reduction would have on other species.

Vashon-Maury Island Community Council

Comment

Please apprise us in the Final EIS and/or the supplemental DEIS, if studies regarding spawning of herring, sand lance, and surf smelt at the site are going to be required. The current DEIS fails to discuss literature, modelling and/or study/analysis of same.

Nelson, Sharon K.

Response

Surf smelt and sand lance were observed at the site during eelgrass surveys conducted on July 24 and August 1, 1999. Surf smelt and sand lance are considered in the FEIS in Sections 6.2.2.4 and 6.2.2.5, respectively, although much less is known about their requirements and tolerance thresholds than is known for other sensitive species. It is unlikely that the Proposed Action would significantly affect surf smelt or sand lance spawning habitat (upper intertidal zone + 5 MLLW), since the Proposed Action would cross the upper intertidal zone only by use of the dock. Impacts due to dock repair in the upper intertidal would be minimal and extremely localized (only a few pilings). Increased contribution of sediment due to project activities would not affect eggs or larvae of sand lance or surf smelt because they are adapted to a dynamic sandy environment. Natural wave erosion/deposition dominate the sedimentation process in the upper intertidal zone.

Sand lance are obligate upper intertidal spawners, depositing eggs in sand-gravel substrate between the mean high tide line and about +5 feet in tidal elevation. Broods of eggs incubate in beach sand for about 1 month, after which larvae enter the nearshore plankton. Sand lance spawn from November through February and may spawn several times at any given site. Sites appear to be used year

after year (Bargmann et al. 1998). The disturbance to potential sand lance spawning habitat would be minimal and therefore would not lead to a cascading effect on other higher trophic levels.

Comment C-6.007

The DEIS does not address the importance of herring, surf smelt, and sand lance as food for marine mammals, other fish, and seabirds, the declining populations of herring and the implication for Puget Sound, and the relationship of declining herring populations to recent nesting failures and abandonment of colonies by great blue heron.

Vashon-Maury Island Community Council

Comment C-8.049

Change the EIS to reflect the presence of large schools of Pacific sand lance found per the 8/31/99 Jones & Stokes report. Provide more information on their significance for chinook salmon, bulltrout, and other endangered/threatened species.

Vashon-Maury Island Community Council

Response

Sections 6.3, 6.4.3.17, and 6.6 in the FEIS have additional analysis of the impacts and cumulative impacts of the proposed activities. The DEIS recognized the importance of herring, surf smelt, and sand lance as "...important forage fish for other fish such as salmon, and constitute an important baitfish fishery in Puget Sound." The heron colony would not be disturbed by the project, as documented in the EIS.

Comment C-6.008

The DEIS does not address the vulnerability of surf smelt to shoreline development and construction. It does not adequately address their importance as food for marine mammals, other fish, and seabirds.

Vashon-Maury Island Community Council

Comment C-6.009

The DEIS fails to address the significance of sand lance in the diet of juvenile salmon, Chinook salmon, and other economically important species. The DEIS does not address the vulnerability of sand lance to the cumulative effects of shoreline development. The DEIS states that sand lance are not known to spawn on the project site, but a more comprehensive survey is needed.

Vashon-Maury Island Community Council

Response

The DEIS recognized the importance of herring, surf smelt, and sand lance in Section 6.2.2.4 as "...important forage fish for other fish such as salmon, and constitute an important baitfish fishery in

Puget Sound.” This discussion has been expanded in the FEIS in Sections 6.2.2.3–6.2.2.5. The FEIS considers the site potential spawning habitat for sand lance.

Among the activities most commonly cited as detrimental to sand lance habitat are shoreline armoring and burial under bulkhead fill. No armoring or bulkhead construction is proposed at the site. The largest increases in shoreline armoring and bulkhead construction in the project vicinity have occurred as a result of residential development (see Figures 11-5 and 11-7 in the DEIS). Impacts due to dock repair in the upper intertidal zone would be minimal and extremely localized (just a few pilings). Increased sedimentation due to project activities would not affect sand lance, sand lance spawning habitat, eggs, or larvae because they are adapted to a dynamic sandy environment. Natural wave erosion/deposition dominate the sedimentation process in the upper intertidal zone.

Comment O-1.257

6.2.2.1 p. 6-3. This section states that bull kelp is not shown at the project site in the Puget Sound Environmental Atlas. Will bull kelp be surveyed as part of the eelgrass surveys mentioned in this section?

Ortman, David

Response

Bull kelp was included in the surveys conducted July 24 and August 1, 1999, but none was found.

Salmon, Cod, and other Fish and the Endangered Species Act

Comment C-8.050

(part 1 of 3). Change the EIS to reflect the presence of chinook salmon at the site, and note its federal listing as an endangered species.

Vashon-Maury Island Community Council

Comment C-1.003

Chinook salmon, large schools of sand lance, and copper and brown rockfish, and lingcod eggs have been noted at the site.

Nelson, Sharon K.

Comment C-8.050	<p>(part 2 of 3). Reflect the presence of two candidate species, copper rockfish and brown rockfish, and discuss their feeding and habitat requirements. Discuss the lingcod eggs and their significance as a candidate species.</p> <p>Vashon-Maury Island Community Council</p>
Comment	<p>Please note that Jones and Stokes has provided an 8/31/99 Study on eelgrass/microalgae at the Maury Island site that specifically shows salmon utilizing the site, along with copper and brown rockfish, large schools of sand lance, and that previously Lone Star's consultants, AESI, noted lingcod eggs at the site.</p> <p>Nelson, Sharon K.</p>
Comment	<p>There is scant discussion of this project's effects upon benthic (attached) sea life, both marine grasses and animals.</p> <p>Kuperberg, Joel</p>
Comment	<p>considering the listing of Puget Sound salmon as a critical species heading towards the endangered list, I am concerned that the near shore use that Lone Star intends could damage critical habitat. Lone Star does not have a good record maintaining clean sites, and with the proposed scope of excavation, there will be some damage that is irreversible.</p> <p>Parrott, Jonathan</p>
Comment	<p>Additionally, I am very concerned about the eel grass beds and the Salmon located in that area. At a time when we are working so hard to save the Salmon, this mining project seems to be a poorly thought out and ill advised plan.</p> <p>Nebeker, Susan</p>
Comment	<p>The mine is incompatible with the Endangered Species Act and harassment of the Chinook salmon inevitable with barge traffic. Please stop Lone Star's proposed expansion and protect salmon for our future and the future of the Pacific Northwest.</p> <p>Saunders, Karen and Peter</p>
Response	<p>Fisheries ecology is complex, and many uncertainties do exist. The FEIS utilizes the "best available science" to make a determination as to the probable adverse environmental impacts which are significant as required under SEPA (RCW 43.21C.031).</p>
Comment	<p>Five items for consideration:</p> <ol style="list-style-type: none"> 1. The proposed Lonestar sight represents critical Salmon (juvenile and mature Chinook Salmon especially) habitat as it enjoys a

proximity to the mouth of the Puyallup River of Less than 5 miles.

2.The proposed Lonestar sight represents critical Salmon habitat as the area between Point Robinson and Piner Point functions as a back eddy (and therefore holding and feeding area) in a local system of extreme tidal flow. (i.e. the Narrows just to the South)

3.The proposed Lonestar sight represents critical Salmon habitat as the Herring, Candlefish and Smelt spawn in these back eddy sections of the near shore providing both essential feed AND, most especially, a concentrating influence for both juvenile and mature Salmon in the immediate area.

4.The argument for mitigation from the unquantifiability of the negative impacts to Salmon habitat and survival is inadmissible inasmuch as the inability to gauge a precise quantitative impact in the extremely complex equation of fisheries ecology does not deny that those impacts will occur. Rather,

5.Unquantifiability justifies inaction until the relevant data is available for a precise measurement of the direct and quantifiable impacts to Salmon, in order that the decision calculus to permit is based solidly upon weighable scientific data.

Pearce, John

Comment C-8.064

(part 3 of 3). In the “Maury Island Mining Operation in King County, Washington Expanded Environmental Checklist” the following was noted: “South of the pier, a sunken pleasure boat and two sunken wooden barges were found. Large numbers of pile perch, striped seaperch, lingcod, and rockfish were found congregated on these structures. At least three batches of lingcod eggs were observed on one of the sunken barges.” Please provide comment regarding the potential listing of cod, rockfish and Pacific herring on the Endangered Species Act list and impacts on these potential ESA fish by the proposed operation. It is obvious that the conditions for compliance are not as stated in the table (6-2). Information in this and previous reports contradict the assertion made that this project would be in compliance. Please provide a reassessment of your conclusions or discuss why you have a pro-applicant bias on this issue.

Vashon-Maury Island Community Council

Comment

The salmon issue is not addressed properly in the report. It states, “Based on the known biology of salmon, the key concern for juvenile salmon are projects that occur near the mouths of rivers.” (6.3.7.1). New findings are pointing to the importance of near shore habitat. The writers of the DEIS have obviously not studied new reports that link the survival of salmon to the near shore habitat and eel grass beds.

Rossi, Michael and Marlene

Response

The FEIS discusses salmon, rockfish, lingcod, herring, and other important biological components of the site in Section 6.2.2. Further analysis of the potential impacts on these species is provided in the subsequent sections of Chapter 6.

Eelgrass use by salmon is discussed fully in the FEIS, and impacts on eelgrass are also considered in the FEIS as impacts on salmon. Eelgrass occurs in waters off Maury Island from the project site to Quartermaster Harbor. Eelgrass at the site is patchy, and covers less than 10 percent of the area between the dock/dolphins and mean lower low water.

Comment I-1.027

There is no mention of non-commercial filter feeders or non-salmonid deeper water fishes—about a dozen of which are in decline and being proposed for ESA listing (rockfishes, lingcod).
Shipley, Frank

Comment O-1.262

p. 6-6. Please identify the “less economically important species of fish and invertebrates found along the shoreline of the project site”.
Ortman, David

Response

Many species are found at the site, as indicated in Tables 6-1 and 6-3 of the FEIS; however, it is beyond the scope of the EIS to discuss every species present. The FEIS discusses potential impacts to ESA-listed and commercially important species. As such, the FEIS includes sections about salmon, herring, and rockfish. Although lingcod settlement and nursery areas (“beach and subtidal areas with sand, eelgrass, subtidal worm tubes, and other bed material” WAC 220-110-250) are considered as “saltwater habitats of special concern,” it is the Pacific cod (*Gadus macrocephalus*), not lingcod (*Ophiodon elongates*), that has been proposed for ESA listing. WAC 220-110-270 describes the technical provisions that apply to construction in “saltwater habitats of special concern”, which are very different from the ramifications of ESA listing.

6.2.3 Other Considerations of the Marine Environment

Comment O-1.258

6.2.2.4 p.6-4. What are the estimated number of sea cucumbers in this area?
Ortman, David

Response

Sea cucumbers were noted at the site during surveys, but no population estimates were made.

6.3 Impacts

General Considerations

Comment C-2.007

Claims of ‘negligible impact’ and ‘minor effects’ on fish and marine plants (e.g., eel grass and kelp) species should be clearly documented through thorough biological studies conducted before - and confirmed after - the onset of operations, through at least one annual cycle. Until the absence of any significant impact is verified, seasonal restrictions should apply to land clearing and other disruptive operations, including barge loading, to ensure fish species are not negatively impacted during critical life stages, which are not addressed sufficiently in the DEIS.

Ernst, William

Comment C-8.063

6.5 and 6.6 #51. This section of this DEIS is totally inadequate. There is no depth chart other than at the pier, no diagramming of repairs required to the dock. There is no inventory of marine habitat or life, ... no sediment testing for pollutants, ... no figures provided for spillage, ... no comment on the plans for or necessity for dredging, ... and no information on the nature of and potential effects of prop wash on the bottom. In other words, there is no information on which to base a conclusion there would be no cumulative impacts on this environment. Please revise and provide complete and accurate information of this project to marine fisheries and habitat, including impacts to Chinook salmon, bulltrout, rockfish, lingcod, sand lance and eelgrass.

Vashon-Maury Island Community Council

Comment I-5.003

The EIS fails to adequately evaluate the potential threats that this mining activity poses to the marine environment.

Davis, Jennifer

Comment I-15.005

... disturbance and, such as eel grass, kelps beds, smelt, herring, salmon,...

Skeffington, Beverly

Response

Chapter 6 of the FEIS has been extensively revised to address concerns about impacts to the marine environment.

Chapter 6 of the FEIS provides additional analysis and discussion of depth (Figures 6-2a and 6-2b), repairs required to the dock (Section 6.3.8), potential effects of prop wash (Section 6.3.4),

inventory of marine life and habitats (Section 6.2.1 and 6.2.2, Tables 6-1, 6-3, and 6-4), and threats to habitat (Section 6.3). Dredging has not been proposed as part of the project and therefore is beyond the scope of the EIS. However, issues related to water depth adjacent to tugs and barges are discussed in Section 6.3.

Additional details on repairs required to the dock are included in Sections 2.2.3.6, and 6.3.8, and the engineering reports addressing the dock have been included in the FEIS as Appendices F, G, and H.

Comment C-6.013

(part 1 of 4). Creating conditions that salmon avoid is comparable to destroying that habitat. The DEIS does not address the impact on marine animals of habitat under-or non-utilization.

Vashon-Maury Island Community Council

Response

Avoidance of habitat is noted in the EIS. Further analysis is included in Chapter 6 of the FEIS.

Comment

Regarding salmon, did you know that the water which leaches out of gravel pits is warmer than the water in the natural habitat it's rejoining? This alters the temperature of the body of water where salmon and other fish live and makes it inhospitable for their survival. Lone Star will have many of these pits and how will they insure that the water doesn't seep out?

Lisovsky, Jessica

Response

The water which "leaches out of gravel pits" will not immediately rejoin a salmon bearing waterway, which in this case is south Puget Sound. Additionally, because of the extremely large volume of water in south Puget Sound, any contribution of "warmer" water from the gravel pit would not have a measurable effect on the temperature of south Puget Sound.

Comment I-4.005

The shoreline designated by Lone Star as their port for hauling mined material, is home to eelgrass and habitat for salmon, heron, etc. This habitat will be disrupted and permanently damaged by the mining ...

Gylland, Barbara and Fred

- Comment I-11.007** Damage to these eelgrass beds directly and significantly undermines efforts at salmon recovery and will destroy the habitat of forage fish.
Parrish, Elizabeth/Rees, John
- Comment I-3.001** DEIS does not adequately address: impact of the near-shore environment and possible destruction of critical salmon habitat...
Pearce, Judith Wood
- Comment I-1.036** ... no consideration of project effects on salmonid species listings under the Endangered Species Act.
Shipley, Frank
- Comment I-3.016** ... will degrade the near-shore environment ... the probable damage to increasingly rare salmon habitat should be examined carefully under the glare of the ESA Considerations
Pearce, Judith Wood
- Comment** Perhaps, in the FEIS or the revised DEIS, the damage to salmon, the taking, the harrassment which are not allowed under the ESA will be more visible.
Nelson, Sharon K.
- Comment** For many western states' citizens, federal, state and local governments, salmonids, prey (food) species, habitat and the ESA declaration are the most critical land use issues of this century. Yet the Lonestar EIS relegates these paramount issues to incidental consideration in Lonestar's 35 year-to-indefinite shoreline use application. Why?
Kuperberg, Joel
- Comment I-3.018** The determination of the possible/probable degradation of the salmon habitat ... should happen before mining activities commence.
Pearce, Judith Wood
- Comment I-2.013** On one hand...fishing industry is made to cut back in order to protect the salmon...on other hand a newly intense operation could be permitted into legally destroying eelgrass... residents statewide will have increases in taxes to save the salmon while Lonestar rapes salmon habitat.
Clark, Rose
- Comment I-3.015** King County's Return of the Kings, Strategies for the long-term Conservation and Recovery of the Chinook Salmon. ... What does it apply to? When does it apply? Does it apply ... ?
Pearce, Judith Wood

Comment I-3.021

... urge that King County implement and follow their own salmon recovery plan ...

Pearce, Judith Wood

Comment I-4.006

How can the State and County spend tax dollars to promote salmon preservation elsewhere, while simultaneously killing the species in King County?!

Gylland, Barbara and Fred

Response

The purpose of the EIS is to determine the significance of potential impacts on the environment. Chapter 6 assesses the impacts of the Proposed Action on marine habitat and fisheries, which includes eelgrass and salmon. The FEIS Chapter 6 includes further analysis and discussion of the specific threats to these resources.

6.3.1 How would shading from barges at the dock adversely affect eelgrass or other marine biological communities?

Shading from Barges

Comment A-2.016

6.3.1 Shading Impacts: The DEIS states that shade is not expected to significantly reduce eelgrass or kelp beds because these habitat features are not in close proximity to the barge loading operations. This is an inaccurate assumption based on information available at this time. Although most of the eelgrass consists of small patches within the vicinity of the barge-loading operations, there is a bed (approximately 25 square feet) to the north and adjacent to the pier and approximately 25 feet from where the barge would be loading gravel. At maximum production, there would be four barges loaded within a 24 hour period or two within daylight hours. If it takes approximately 5-6 hours to load a barge, the eelgrass bed located nearest to the pier could be shaded almost entirely during daylight hours.

Washington Department of Fish and Wildlife

Comment

Water turbidity and shade will destroy eelgrass beds. There is no way Lone Star can assure you that tugs will not stir up sediments or barges shade these beds.

Rossi, Michael and Marlene

Comment A-1.009

(part 1 of 2). Section 6.3.1.1 p. 6-7. The statement that no eelgrass is present and habitat is not suitable where shading would occur is misleading. There is presently documented eelgrass under the barge moorage area on the north end of the piling.

Washington Department of Natural Resources

Response

FEIS Section 6.3.1 has been revised to include additional information about the location and light requirements of eelgrass. Further analysis and discussion about the potential impacts and mitigation measures have also been added.

Comment C-8.050

(part 3 of 3, repeated). Discuss impact of tug/barge operations, dock/dolphin repair, spillage, prop wash, and turbidity on these species (chinook salmon, copper rockfish, brown rockfish, and lingcod), and change Table 6-1 to reflect new information.
Vashon-Maury Island Community Council

Response

The FEIS includes additional analysis and discussion of impacts related to tug and barge activities (Sections 6.3.1, 6.3.2, and 6.3.4), dock/dolphin repairs (Sections 6.3.7 and 6.3.8), spillage (Sections 6.3.2 and 6.3.3), and prop wash and turbidity (Section 6.3.4). Section 6.4 includes mitigation measures to minimize and avoid potential impacts.

Shading from Dock Construction

Comment C-8.079

(part 2 of 3 and repeated in 6.3.1). The report says that about 25 % of the decking, stringers and planking would be replaced on the dock. This replacement should be evaluated with regard to shading of the eelgrass beds directly under the dock. Please clarify as to the source of this evaluation and the relationship of General Construction Company with Lone Star N W and Jones & Stokes.
Vashon-Maury Island Community Council

Comment I-17.004

Repair the missing decking alone will clearly add significantly to shading of the eelgrass that currently exists under the dock.
Putnam, Joshua

Response

See Section 6.3.8 in the FEIS for further analysis of the impacts of repairs and maintenance of the dock, and Section 6.4 for mitigation measures to reduce shading under the dock.

Shading Away From the Dock

Comment A-2.017

Shading impacts could occur not only on the eelgrass bed located closest to the loading facility, but on the two eelgrass beds located to the north and south of the loading facility as well. For continuous loading operations, it is assumed that two barges would

be present in the vicinity of the loading area—one that is being loaded at the dock and another that is waiting to take its place. If the second barge waiting to be loaded is located near the eelgrass beds to the north or south of the loading facility, potential shading impacts could occur. The WDFW may require shading studies be conducted 300 feet to the north and south of the centerline of the pier depending on operating procedures.

Washington Department of Fish and Wildlife

Comment C-6.010

(part 1 of 3). The DEIS does not adequately address: light reduction as the primary cause of loss of seagrasses, nor the effect on eelgrass of periodic episodes of light attenuation, such as occurs with the mooring or passage of boats; shading from the conveyor belt, troughing idlers, return idlers, spill trays and other equipment; light reduction from tugs, barges, and turbulence in relation to existing and potential eelgrass patches; changes in the cone of light reduction when the tide is high and low, with differing sun angles at different times of day and through the year; if turbulence, prop wash and/or barges and tugs will cause diminished light on the eelgrass patches, and how far from tugs and barges turbulence and light reduction may occur.

Vashon-Maury Island Community Council

Comment C-6.010

(part 3 of 3). The DEIS does not specify how often tugs may not be “typically” aligned to the barge, nor the related potential impacts. Where the tugs or barges may be active or tied up in relation to eelgrass patches is not clearly shown. Light reduction is likely to extend farther than directly under the wash plume. The DEIS ignores that loss of eelgrass can occur rapidly when conditions are altered, and that a stressed area may be pushed beyond its limits, with the additional loss of stabilizing eelgrass beds.

Vashon-Maury Island Community Council

Comment C-8.040

Barges will cast shadows toward the shoreline. Models showing the potential for shading from the dock and barges should be available here. The EIS says that during barge loading tugs will be alongside the barges so prop wash will not have an impact on eelgrass beds. How do we know that? What is the impact and distance of tugs maneuvering barges? Provide diagrams of the loading operation, show how tugs and barges will approach and leave from the dock. Describe how operations will be affected by weather, and whether tides and/or weather require greater tug power, and what prop wash will result.

Vashon-Maury Island Community Council

Comment G-3.023

23. 6 3 1. It is curious that this section states that no eelgrass is present in areas around the dock that would be shaded, when only a winter survey has been done. It's completely unclear where shade would be cast by a 24-hour barging operation, a spill-shield, and proposed dock repairs. A summer survey of eelgrass should be compared with a shading model to calculate the amount of eelgrass that will be lost. What is more, "all potential areas of eelgrass," including the area under the dock down to -22 feet MLLW should be completely protected from shading—keeping in mind that the elevations presented in Figure 6-1 are at least 15 feet lower than the true elevations. It's also curious that this section cites Thom et al, 1995, but fails to examine the impacts documented in that study.

People for Puget Sound

Comment I-1.026

... applicant limits most discussion of near-shore impacts to areas shallower than -22 feet MLLW, a depth that excludes proposed vessel-related activity. Eelgrass ... is known to be present ... near the proposed vessel activity, and actual site data are needed from the field survey.

Shipley, Frank

Comment O-1.267

If surveys are needed to locate specific areas where eel grass and bull kelp occur, why does it state in Sec. 6.3.1.1 p. 6-7 that no eelgrass is present where shading would occur and that no kelp is present within areas that would be shaded.

Ortman, David

Comment I-17.027

does not address increased shading from repairs to the dock, as opposed to the shading of the eelgrass at the outer end of the dock by barges.

Putnam, Joshua

Response

Additional analysis and discussion of shading and reduction in light due to turbulence and turbidity, with respect to eelgrass patches identified at the site, is included in Sections 6.3.1, 6.3.4, and 6.3.8 of the FEIS. Additional mitigation measures are included in Section 6.4.

Comment I-17.028

Regardless of where the tugboat's propeller wash is directed during loading it must be directed towards the shoreline in order to pull the loaded barges away from the shoreline.

Putnam, Joshua

Comment O-1.266

6.3.1. p. 6-7. At various points in this section (e.g., p. 6-11, p. 10-8) the DEIS states that tugboats would typically be aligned to the barge with the propeller wash oriented parallel to or away from the shore. Please explain why prop wash would not impact the shoreline area adjacent to the tug during low tide cycles? Please explain the use of the term “typically”. Under what conditions would tugboats be aligned toward the shore?

Ortman, David

Response

Additional analysis and discussion of propeller wash is included in Section 6.3.4 of the FEIS. Mitigation measures are included in Section 6.4.

Comment C-8.051

Add the word “How” at the beginning of questions 6.3.1 and 6.3.2, and properly reflect known literature in the questions posed. The analysis in this section is vague, with terms “typically”, “significantly”, “minor” used. ... please define these terms and provide quantification as to acceptable reduction in habitat.

Vashon-Maury Island Community Council

Response

The titles for Sections 6.3.1 and 6.3.2 have been revised as suggested. Analysis is presented to the degree of detail needed to evaluate probable adverse impacts.

6.3.1.1 Proposed Action

No comments were received that specifically addressed this section.

6.3.1.2 Alternative 1

No comments were received that specifically addressed this section.

6.3.1.3 Alternative 2

No comments were received that specifically addressed this section.

6.3.1.4 No-Action

No comments were received that specifically addressed this section.

6.3.2 How would accidental spillage of sand and gravel during barge loading adversely affect marine life under or near the dock and barges?

Amount of Spilling

Comment I-21.035

(part 2 of 2) What's the worst case spill?
Baker, Alby

Comment A-1.011

(part 2 of 3) What is the expected spillage rate with the upgrades proposed for the conveyor belt and spill tray.
Washington Department of Natural Resources

Comment C-4.017

(repeated in 2.2.3.5) The DEIS does not provide an engineering design or a conveyor belt system that would prevent spillage into the near-shore area. Evidence demonstrates that conveyor belt systems have spillage at the loading hopper, along the belt and at the discharge point. There is no quantification of potential spillage nor an analysis of how spilled material would be affected by currents and tidal action.

Vashon-Maury Island Community Council/Thomas McKey

Comment A-2.019

(part 1 of 4) If gravel is loaded above the height of the walls of the barge, especially during storm events, the barge could list and spill additional gravel.

Washington Department of Fish and Wildlife

Comment C-6.011

(part 3 of 5). The DEIS does not adequately address: how much potential minor spillage may occur; effects on the benthic community;...

Vashon-Maury Island Community Council

Comment A-2.019

(part 3 of 4) Although Lone Star maintains that the eelgrass beds to the north and south of the loading operation will not be affected, this may not be the case. Spills occurring after the barge is loaded and moving away from the dock may pose as great a danger or more, depending on the operating procedures implemented.

Washington Department of Fish and Wildlife

Comment A-2.018

(part 1 of 3). 6.3.2 Accidental Spillage of Sand and Gravel: this poses the greatest potential for adverse effects to habitat and food sources for both marine organisms and vegetation.

Washington Department of Fish and Wildlife

Comment C-6.011

(part 4 of 5) The DEIS does not adequately address: drift of spillage and impact on nearby eelgrass patches or surf smelt/sand lance spawning areas;...

Vashon-Maury Island Community Council

Comment A-2.008

(part 2 of 4) Spillage of sand and gravel could smother eelgrass beds, which provide both food and protective coverage for juvenile salmon.

Washington Department of Fish and Wildlife

Comment I-9.002

... potential for spillage into the Puget Sound during conveyance of the sand and gravel to the barges poses a significant threat to the environment ... is inadequately addressed by the proposed “splash pan”. The presence of salmon in Puget Sound mandates ... analysis ... to ensure that this permit does not authorize the “take” of our threatened Puget Sound salmon.

Mackey, Cyndy

Comment C-6.011

(part 2 of 5) The DEIS does not adequately address: change to benthic communities where a spill tray is used.

Vashon-Maury Island Community Council

Comment C-8.041

The Washington Dept. of Fisheries observed up to one percent of materials loaded may be spilled, covering native substrate and killing benthic organisms. Provide a complete discussion of spillage and calculations regarding the amount of material which will be deposited in the nearshore area. Discuss how it will affect eelgrass, rockfish, lingcod, and Pacific herring, as to turbidity, oxygenation, and habitat. Comment on the impact to benthic habitat from conveyors and/or barge accidents. Describe how two sunken barges were put there—was it weather, poor loading, and what amount of spillage occurred. The argument that the operator will have a high incentive not to spill is without reason—what is the nature of an accident? Discuss this more fully. Provide calculations as to the amount of spillage which could occur when the dock is fully operational and consider the impact of weather conditions/errors. The EIS states that temporary localized loss of habitat and resident species is expected on occasion ... please discuss what temporary means, and what it represents under the ESA. Is the current depth adequate for barge loading, and how much more gravel spillage could occur before dredging was required? Discuss the MLLW conditions required for this type of operation in relation to the type of barges planned. Discuss the nature/susceptibility of eelgrass beds from damage by smothering and mitigation following a spill.

Vashon-Maury Island Community Council

Comment C-6.011

(part 5 of 5) The DEIS does not adequately address: the necessity for dredging and its environmental impacts.

Vashon-Maury Island Community Council

Comment C-8.060

6.3.2. The Washington Department of Fisheries suggested that in addition to an automatic interrupt switch, loading processes be manned to prevent spillage of material when barges are not in position at the dock. Please provide information as to whether such manning is planned or will be required. Please discuss what type of contingency plan is going to be used if the interrupter switch fails.

Section 6.3.2 states that “no significant impacts from the accidental spillage of sand and gravel are anticipated” is not supported by the information provided. The fact that Jones & Stokes reached this conclusion with such limited analysis supports our concerns that the DEIS has a strong pro-applicant bias and is not an independent evaluation.

Section 6.3.2.1 states “The operator will have a high incentive not to spill because of loss of revenue, interference with barge docking and costs of environmental restoration. Please provide a cost-benefit analysis of the value of delaying barge loading on a major project vs. paying for eelgrass restoration. What is the financial incentive required to prevent accidental or occasional spills? Before this conclusion can be reached a complete cost/benefit discussion needs to occur or remove the statement from the EIS.

Section 6.3.2 states “gravel has already been deposited in this area.” Prior to reaching conclusions regarding the fact that spillage will not occur, please provide a discussion of how the gravel was deposited on site and compare that occurrence(s) with the proposed mitigation for accidental spillage. Please then discuss if the sand and gravel spillage at the site needs to be removed and if so whether the applicant will pay for the restoration.

Section 6.3.2.1 states “If surf smelt or sand lance spawning occurs at the site, increased turbidity could lead to greater egg mortality or the avoidance of affected beach areas by spawning adults.” Large schools of sand lance have been identified on the site, (Jones and Stokes 8/31/99) and a more thorough review of the site as spawning habitat should now be required based on these findings before any decisions/conclusions are made. Please note this in the EIS.

Vashon-Maury Island Community Council

Comment O-1.272

Accidental Spillage/Proposed Action: It states that the Taiheijo Cement Corp. would have a high incentive not to spill because of loss of revenue, interference with barge docking, and costs of environmental restoration. What is the cost of sand per 1,000 tons? What is the cost of gravel per 1,000 tons? What method of environmental restoration would take place? Would this include dredging?

Ortman, David

Comment

The rationale that economics will drive the applicant to not spill sand at the dock seems weak. What is the sand worth at the end of the Maury Island conveyer?

Kuperberg, J. Michael, Ph.D.

Comment C-8.099

6 3 2 #99. The DEIS sets forth the position that spillage is not potentially harmful to the marine environment. Although basically quoting from the Expanded Environmental Checklist submitted in May, 1998, significant data contained in that document are not included. That these statements were not included in this evaluation and are, in fact, completely ignored, makes the product suspect. When coupled with the other omissions and misstatements of policy, one can only conclude that this is an advocacy rather than an impartial evaluation. The entire marine section is totally lacking data. Where are the figures for depths at locations other than pierside? Where is the marine habitat and fisheries inventory? To have this little data available on an area bearing directly on salmonids is inexcusable.

Vashon-Maury Island Community Council

Comment

It is also common sense to me that the rare eelgrass feeding grounds (salmon fry habitat) would be destroyed by barging, whereas the Draft EIS mentions that it won't be destroyed because "the operator will have a high incentive not to spill ...". (Table S-5). If protecting the salmon in this state is a priority, this impact should be carefully considered.

De Guzman, Kristine R. and Carlo B.

Comment I-3.012

... DEIS has omitted many issues ... how much average spillage it would take to destroy the eel grass beds is vital to the loss of critical salmon habitat.

Pearce, Judith Wood

Comment I -7.029

... what will stop strong winds from separating finer materials from the stream of gravel being dumped onto a barge? ... what will be done to stop this finer material from being blown past the edge of a barge?

Putnam, Joshua

Comment O-1.271	<p>Accidental Spillage/Proposed Action: It states that a spill tray would be installed. What is a spill tray? Where would it be installed?</p> <p>Ortman, David</p>
Comment O-1.269	<p>Based on other operating experience elsewhere with spill trays, what is the rate of spillage from a spill tray under a conveyor?</p> <p>Ortman, David</p>
Comment I-21.033	<p>What about the proposed “splash pan”? How much spillage before the pan is rendered useless? What happens when it overflows</p> <p>Baker, Alby</p>
Comment G-3.024	<p>24. 6 3 2. Permits in other comparable situations have required a fully contained conveyor system as well as ongoing monitoring and mitigation plans.</p> <p>People for Puget Sound</p>
Comment A-2.018	<p>(part 2 of 3). The assumptions and evaluation in this section are insufficient. There is no mention in the DEIS estimating how much spillage there may be for an operation of this size and when, where, and under what circumstances spills are more likely to occur. The WDFW evaluated a gravel mining operation in 1992 at Nisqually and mentioned that similar operations have been estimated to spill up to 1% of all materials loaded. If 7.5 million tons are loaded per year, potentially 75,000 ton annually could be spilled into the nearshore environment. This could have devastating effects on the ecosystem at this site. At a minimum, WDFW will want information on gravel mining operations in other areas around Washington and the United States identifying estimated spillage and how currents may affect sediment distribution in the event of a spill.</p> <p>Washington Department of Fish and Wildlife</p>
Comment	<p>6.8.2 Again, the spill mitigation measures will be difficult to monitor/enforce. What procedures are proposed for this?</p> <p>Kuperberg, J. Michael, Ph.D.</p>
Response	<p>Additional analysis and discussion of spillage from the conveyor belt, barge loading, or barge overturning; the effects of spillage on the benthic community and other marine life; potential underwater drift of spillage; and recovery of the benthic community from spillage are provided in Section 6.3.2 of the FEIS.</p> <p>A dive survey conducted at the Dupont barge-loading facility (Appendix K of the FEIS) revealed piles of spilled sand and gravel at the end of the conveyor. The spillage estimates for the Dupont</p>

site (Nisqually) were 1 pound per foot of conveyor per year. The total annual volume proposed for the Dupont site was between 2 and 4 million tons, roughly half the amount proposed at Maury Island. Thus expected spillage for Maury Island, without any protective measures, would be about 2 pounds per foot per year. At the Maury Island site approximately 300 feet of conveyor are located over the nearshore area, and the resultant spillage estimate would be approximately 600 pounds per year.

Mitigation measures are included in Sections 6.4.2 and 6.4.3 to mitigate potential accidental spillage, including a spill tray; a wind screen; a down-pour spout; procedures for spill tray maintenance; a “haul-back” system for barge placement; loading restrictions; and monitoring requirements.

The Applicant has not proposed dredging.

Statements about financial incentives not to spill have been removed from the FEIS.

6.3.2.1 Proposed Action

No comments were received that specifically addressed this section.

6.3.2.2 Alternative 1

No comments were received that specifically addressed this section.

6.3.2.3 Alternative 2

No comments were received that specifically addressed this section.

6.3.2.4 No-Action

No comments were received that specifically addressed this section.

6.3.3 What would be the potential for petroleum spills from increased marine equipment activity?

Comment A-1.013

Section 6.3.3 p. -9. What measures are in place to prevent leaking of hydraulic fluids from operation of the conveyor system over water?

Washington Department of Natural Resources

Response

The conveyor system at Maury Island does not use hydraulics in its operations.

Comment C-8.054

Provide a detailed plan for what mitigation strategies will be employed if a spill occurs in rough seas. Discuss petroleum/fuel capacity of the tugs used for the operation and discuss potential impacts, response time, and what is deemed adequate containment equipment on board.

Vashon-Maury Island Community Council

Comment G-3.025

25. 6 3 3. It is absurd to assume that a 24-hour barging operation could be sustained for even a short period without some spillage of petroleum. The impacts should be calculated using a statistical model, and they should be appropriately mitigated.

People for Puget Sound

Comment I-17.030

... there must be some consideration of the possibility of marine accidents ... fails to address the possibility of petroleum spills.

Putnam, Joshua

Comment O-1.278

Petroleum Spills/Proposed Action: Please quantify the number of tugboats that would be used per barge. Please quantify the amount of fuel carried by a typical tugboat that might be used in the barging operation.

Ortman, David

Comment O-1.273

p. 6-9. What would be the impacts from a petroleum product spill?

Ortman, David

Comment O-1.274

The DEIS claims that possibility of accidental spills of petroleum products due to the proposal is minor. How much petroleum fuel does each tugboat hold?

Ortman, David

Comment The eastern side of Maury receives a great deal of wind and wave damage during winter storms. In fact, there is no permanent dock on the eastern side of the island due to these factors. Attempting to load barges in these storms will prove to be difficult and dangerous. Any type of contaminant released into Puget Sound will have an adverse affect. The magnitude of a contaminant being released close to shore (by the pier) would have a profound effect on the near shore habitats. The Exxon Valdez history certainly points to the long-term effects an oil spill can have on a site.
Rossi, Michael and Marlene

Comment [The DEIS] does not address that fact that the tugs are fueled by petroleum products and the potential for a leak or spill is not minor when one considers the damage that could take place.
Rossi, Michael and Marlene

Response Section 6.3.3 of the FEIS has further analysis and discussion of the potential for spillage of petroleum products and tug specifications. Mitigation measures are included in Section 6.4. Control of petroleum spills is standard for all marine projects. Modeling is not necessary to determine risks and appropriate mitigation measures.

Comment O-1.276 The fact that vessels operate with spill containment equipment aboard is not assurance of safety from oil spills. Please delete this statement.
Ortman, David

Comment 6.18.1. It should be pointed out that the mere presence of spill containment equipment is not sufficient. Crews must be trained and practiced in the deployment of this equipment as well.
Kuperberg, J. Michael, Ph.D.

Comment O-1.275 The fact that vessels operate in compliance with Coast Guard regulations is not assurance of safety from oil spills. Please delete this statement.
Ortman, David

Response The statement in the DEIS reads “All vessels would operate in compliance with Coast Guard regulations to limit the potential for petroleum spills.” Coast Guard regulations specifically relate to prevention of accidents and environmental damage. They include oil spill prevention and response requirements. Preventative measures are never “assurances” of safety, however, they do reduce the likelihood of adverse events occurring. Similarly, spill

containment equipment would reduce the impacts from a spill, if one were to occur. The containment equipment does not influence the chance of a spill occurring. Risks of petroleum spills have been identified in the FEIS and will be considered as part of the decision.

6.3.3.1 Proposed Action

No comments were received that specifically addressed this section.

6.3.3.2 Alternative 1

No comments were received that specifically addressed this section.

6.3.3.3 Alternative 2

No comments were received that specifically addressed this section.

6.3.3.4 No-Action

Comment O-1.277

Accidental Spillage/No-Action: It states that barging and use of the conveyor would not occur. How does this square with the statement on S-5 that states, "... this is not to say that barge loading would be prohibited if the applicant's proposal is denied." If the statement presented is not accurate, please change this table [Table S-4].

Ortman, David

Response

The DEIS Section 2.5.1 explains why the No-Action Alternative is included and why there is an "assumed lack of barging."

6.3.4 Would stormwater, propeller wash, or barge grounding affect marine organisms?

Stormwater

Comment C-8.055

Reductions in water quality are a severe threat to eelgrass and to nearshore habitat. What if a 100-year storm occurs? What sedimentation will be released into the nearshore environment? What will be the turbidity and impact to eelgrass and spawning habitat? The EIS needs to include information regarding weather

patterns of the past 50 years and potential impacts to the Sound. Critical issues also include whether the sedimentation pond could concentrate toxics, and whether arsenic trioxide could be altered to become more mobile based on soil augmentation. Thoroughly review the literature related to arsenic mobilization with augmentation; disturbance of arsenic/toxics in marine sediments; and arsenic/toxicity in a marine environment.

Vashon-Maury Island Community Council

Comment

We are most concerned by the statement, “Surface water from the mining operation would infiltrate to the underlying aquifer via the proposed retention/infiltration pond. (6.3.4.1) With the presence of arsenic and other contaminants brought to the site by trucks the potential for contaminating our aquifer is too great to take such a risk. We are too dependent on our aquifer to even consider that it could be adversely affected to the point we would have no water. The Dept. of Ecology should be allowed to conduct its study before any further discussion of a permit for Lone Star.

Rossi, Michael and Marlene

Response

Surface water from the mining operation is not expected to flow directly into the nearshore waters but to infiltrate into the aquifer through the ground. Chapters 4 and 10 of the EIS contain further assessment of groundwater quality. The Ecology study is complete, and results are consistent with the analysis in the FEIS (see Chapters 4 and 10).

Comment O-1.279

6.3.4.1 p. 6. It states that surface water from the mining operation would infiltrate to the underlying aquifer via the proposed retention/infiltration pond.

Ortman, David

Comment O-1.283

Turbidity/Proposed Action: It states that surface water from the mining operation would infiltrate to the underlying aquifer via the proposed retention/infiltration pond. This statement is unclear. As material is uncovered, surface water would drop straight down. Please clarify how the interceptor ditch system is suppose to work.

Ortman, David

Response

The proposed infiltration ponds and drainage scheme are discussed in Chapter 4.

Prop Wash

Comment A-1.014

Section 6.3.4 p. 6-10. Given the 24-operation of the Proposed Action, this analysis must be considered for extreme low low tide conditions (ELLT), not mean lower low (MLLW). It must also include the shallower depth of the gravel deposition pile at the barge loading site.

Washington Department of Natural Resources

Comment A-1.015

Sensitive habitat is not only “located close to the shoreline”, eelgrass is located under the piling on the north side and adjacent to the landward side of the piling throughout the site. Additionally, the reef habitat created by the sunken barges will need to be protected.

Washington Department of Natural Resources

Response

Section 6.3.4 of the FEIS contains additional analysis and discussion of sensitive habitats, including the eelgrass patches and sunken barges, in relation to tidal height. Full consideration of all eelgrass patches identified in the eelgrass surveys is provided.

Comment I-21.032

Why aren't the larger beds shown and addressed? What are the implications and impacts from operations for these?

Baker, Alby

Comment I-11.006

The DEIS fails to acknowledge that the eelgrass beds would be damaged by repairs to the Lone Star dock, continual movement of barges, and the spills of petroleum, earth and rock that will invariably take place.

Elizabeth Parrish / John Rees

Comment G-2.018

18 6.3 4 1. Turbidity in the water is an unavoidable consequence of tug operations. How do the tugs plan to dock the barges and keep them inshore without subsequent prop wash directed at the shore? Weather and wave conditions will often dictate how the tug will be operated. Please provide charts mapping the details regarding the loading and transit of the barges and tugs.

Washington Environmental Council

Comment O-1.280

Please evaluate the impacts of marine sediment disturbance from tug operations given a bottom depth of between -18 to -22 feet MLLW.

Ortman, David

Comment G-3.026

26. 6 3 4. This section states that “propeller wash would be directed either parallel to or away from the shoreline.” Since it’s impossible to remove a barge from a dock with propeller wash pointed away from the shoreline, it’s safe to assume that barges and tugs will approach and depart parallel to shore. It is impossible to assess the likely impact from propeller wash without a full survey of bathymetry and eelgrass, and predictions of likely routes of travel over that bathymetry and eelgrass. This section admits that disturbed sediment would be moved by currents, but fails to discuss the impacts of that sediment—which does not stop having an impact when moved by currents. In fact, with the rich eelgrass beds to the north and south of the dock, this movement of turbidity is likely to have a greater impact.

People for Puget Sound

Comment O-1.282

Table S-5. Barge Shading/Proposed Action: It states that tugboats “typically be aligned to the barge during loading, with the propeller wash oriented parallel to or away from shore at a depth where eelgrass does not grow.” What documentation did Jones & Stokes rely on to conclude that propeller wash parallel to the shore would not impact eelgrass? How far does propeller wash extend at various depths? What does the word “typically” signify? How often would tugs not be aligned parallel to or away from shore?

Ortman, David

Comment O-1.286

Turbidity/Proposed Action: It states that tug operations would be conducted in deeper waters where propeller wash would be largely dissipated by the time it hits bottom. What does “largely dissipated” mean? What is the actual estimated amount of turbidity that would be created by propeller wash? What does “deeper waters” mean? Please quantify.

Ortman, David

Comment G-3.018

(part 1 of 8). Again, this section (Sections 6.2.2 and 6.3) focuses exclusively on the area around the dock. Highly potential impacts to eelgrass up-beach and down-beach such as scouring and turbidity from conveyor spill and prop wash are completely ignored, here and in Section 6 3, Impacts. People for Puget Sound Citizen Shoreline Inventory volunteers have identified eelgrass beds in 27 out of 34 150-foot sections of DNR tidelands adjacent the Lone Star property. Obviously, impacts such as turbidity carried on the currents and scouring from tugs passing over adjacent eelgrass beds would not be confined to the immediate dock area.

People for Puget Sound

Comment G-3.016

(repeated in 8.3.2) 16. Chapter 6. This entire chapter assumes that impacts to marine habitat and fisheries will be contained within the area immediately around the dock. Considering that tugs and barges will have to approach and depart the dock from upshore and/or downshore, and considering that impacts such as light, noise, and turbidity will not be contained within the area immediately around the dock, this chapter is seriously lacking in analysis of the real impact to marine habitat and fisheries.

People for Puget Sound

Comment C-6.004

(repeated in 8.3.2). The DEIS does not specify where barges and tugs may operate, their impact on turbidity or shading, and relation to existing eelgrass patches.

Vashon-Maury Island Community Council

Comment O-1.390

(repeated in Ch. 6). 10.3.5.1 p. 10-8. This section states that “in many cases, [tugs] would be located on the seaward side of the barge.” How often would tugs be located on the shoreward side of the barge? What would be the impacts from tugs located in this position?

Ortman, David

Response

The FEIS includes additional analysis and discussion of the potential impacts of scouring and turbidity in Section 6.3.4. The analysis of propwash considers the eelgrass survey results (FEIS Figures 6-2a and 6-2b). Significant transport of medium- and large-sized sediment by currents is not expected and turbidity associated with spillage and fine sediments would be reduced, through dilution, to insignificant levels at distances past those analyzed down the beach.

The FEIS also includes more details regarding tug approach and departure, including additional measures that would prevent damage to shorelines away from the site.

See FEIS Sections 6.3.4 and 6.4 for further discussion of impacts and details of the proposed mitigation.

Comment C-4.002

The writer of these comments has been involved in maritime matters for nearly fifty years, graduated with a degree in engineering from the United States Coast Guard Academy, went to sea in various capacities, and practiced admiralty law in Seattle for over thirty years. The latter included advising and negotiating on behalf of one of the country's largest tug and tow companies for decades, some of which involved the loading and transportation of mined materials by barge. A mining company was also assisted

regarding transportation by water of mined material.

Vashon-Maury Island Community Council/Thomas McKey

Comment C-4.005

Due to the venturi of the water being squeezed under the hull, a vessel can hit bottom even though the water is nominally greater than the vessel's draft. That increase of water velocity due to the venturi effect will also disrupt the bottom.

Vashon-Maury Island Community Council/Thomas McKey

Response

The "venturi effect" is caused by a pressure drop as velocity is increased, and can cause a vessel to "hit bottom" even when water depth is nominally greater than the vessel's draft. However, because the venturi effect is directly related to velocity, the magnitude of this effect is insignificant at speeds typically used by barges during dock approach or departure. The FEIS includes further analysis of potential barge grounding in Section 6.3.4.

Comment C-4.008

The DEIS does not attempt to describe the prop wash nor can it without the data described above ... the tug wash might be directed toward shore at any time...

Vashon-Maury Island Community Council/Thomas McKey

Comment C-4.009

With a 350 foot barge and a tug length of 100 or more feet, tug propulsion will be right over the eelgrass bed near the northernmost dolphin in less than 20 feet of water.

Vashon-Maury Island Community Council/Thomas McKey

Comment C-4.011

A standard technique for freeing a stranded vessel is to have a tug carve out a channel with its propwash. Standard practice for shipyards and others to maintain the needed depths was to have a tug wash out the bottom with its prop. With the shallow depths just inshore of and along the dock face and in the area of some of the dolphins, prop wash effect will be considerable.

Vashon-Maury Island Community Council/Thomas McKey

Comment C-6.012

Terms such as "largely dissipated" and "generally greater" are vague and nonspecific. The DEIS does not specify how far prop wash may occur; at what depth there would be no sediment disturbance; how far from directly below tugs; how much disturbance has occurred in similar situations elsewhere; what the effect of prop wash would be at extreme minus tides; what the effect at the dolphins near the eelgrass beds northeast of the dock would be; where the tugs will be operating in relation to the eelgrass beds; the cone of effect of prop wash and relation to the eelgrass bed; bioturbation from prop wash and effect on eelgrass

beds or their revegetation; the potential for turbidity to retard recruitment of eelgrass in formerly disturbed areas; and the probability of disturbed sediment being moved by prevailing current, causing decreased dissolved oxygen farther onshore of the tug activity.

Vashon-Maury Island Community Council

Comment C-8.042

Accurately portray the depths at the end of the conveyor where the barges will be loaded, and diagram the staging and loading of barges. The offshore environment (water depths under the conveyor and off the pier) described in the Expanded Environmental Checklist differs from that described in the EIS. Correct the EIS to reflect accurate data. Adequately discuss the risk to juvenile fish and invertebrates from tug operations and define “short term” as it relates to disturbances to bottom sediments from barge and tug traffic. Describe prop wash effects of the proposed operation on geoduck clams, horse clams, cockles, lingcod eggs, and lingcod habitat. Discuss the strong wind and wave action in southerly storms and their impacts on tug/barge operations, impacts on potential spills, and what contingency plans would be used to meet contracts if barging could not occur. To simply assert that prop wash is not a problem because of the direction of the tug is not adequate data for basing decisions and assessing potential problems. There is a lack of data on sediment size and composition. There must be studies available on prop wash for various size tugs and draft requirements for various size barges. Was a tug and barge specialist employed for the EIS? Who is that specialist, and what are his/her credentials?

Vashon-Maury Island Community Council

Comment C-8.053

Correct page 6-10 to reflect the depth at the dock, considering the mound of sand and gravel at the end of the conveyor, and an accurate depth at the end of the conveyor. Discuss that depth with respect to prop wash impacts, barge draft impacts, requirements for dredging prior to and throughout the project life. Discuss impacts of dredging and depth at the conveyor end on geoduck, sand lance, rockfish, pacific herring, lingcod, and chinook salmon. Discuss the toxicity of arsenic and other toxic metals (from the upland part of the site) on marine environments.

Vashon-Maury Island Community Council

Comment I-9.014

(repeated) Turbidity will ... increase during mining activity, particularly due to changes in surface water run-off and barge/tug activities.

Mackey, Cyndy

Comment C-8.100

6 3 4 #100. “Because of the depth of water; tug and barge action is not likely to result in disturbances to the bottom sediments.” The potential for disruption of the bottom sediments by tug propeller wash must be considered for this project. The analysis contained in the Expanded Checklist touched on the topic, but provided little in the way of data. Given the potential of the site to have high arsenic content, the lack of data is a significant oversight in this document. The apparent misleading statements concerning water depths at the site are troubling. The expanded checklist provided some figures for depths both at the pier and waterward from the pier. That these figures are not included in this document is cause for concern. If evaluators are not given facts available for consideration, a serious misdeed has occurred.

Vashon-Maury Island Community Council

Response

Section 6.3.4 of the FEIS contains additional analysis and discussion of the effects of prop wash and turbidity on the marine environment. Additional figures are included which indicate local bathymetry and eelgrass locations (Figures 6-2a and 6-2b). Tug specifications are included and compared to existing prop wash studies. The Applicant has not proposed dredging. However, the implications of spillage for water depth relative to barge draft depth, and the relationship to tidal height, are discussed in Sections 6.3.2 and 6.3.4.

Arsenic content of marine sediments is typically low in comparison to nearby land samples and sampling near the area does not indicate appreciable levels. Further analysis of arsenic content was completed by the Washington Department of Ecology and no elevated concentrations were found in marine sediments.

Comment C-12.021

Prop wash—Non leachable contaminants tend to concentrate in sinks and will be released from sediment if prop wash reaches the sediment.

St. George, Brian

Response

See FEIS Section 6.3.4 for discussion of tug prop wash impacts. Substantial sediment disturbance is not expected. Minimal disturbance is expected if procedural guidelines are adopted. The Washington Department of Ecology has conducted additional assessments of marine sediments in the area and no contaminants of concern have been identified.

6.3.4.1 Proposed Action

No comments were received that specifically addressed this section.

6.3.4.2 Alternative 1

No comments were received that specifically addressed this section.

6.3.4.3 Alternative 2

No comments were received that specifically addressed this section.

6.3.4.4 No-Action

No comments were received that specifically addressed this section.

6.3.5 Would removing a portion of the bluff during mining change the deposition/erosion dynamics of the beach?

Comment C-8.056

What data support the conclusion that the bluff is well-vegetated and contributes much less sediment to the beach than an unvegetated bluff would? State why the 200-foot buffer is required, provide information regarding the current buffer, and explain what will be done considering much of the buffer around the conveyor has been removed by prior mining activity. Analyze the mix of species on the buffer and discuss the erosion potential resulting from much of the buffer being removed from past mining operations.

Vashon-Maury Island Community Council

Comment C-12.015

Removing the bluff—where are the data to support the claim that a 200-foot buffer is sufficient to contain erosion?

St. George, Brian

Comment I-1.025

... applicant maintains that expanded activities and loss of half the bluff face at the project site will not alter the “erosion and deposition dynamics of the beach ... How this balance would be achieved, managed, or even identified ... is not discussed.

Shipley, Frank

Comment O-1.285

6.3.5 p. 6-11. This section claims that there would be no change in deposition/erosion dynamics of the beach from removing a majority of the bluff during mining and that only the upper one-half of the height of the bluff along the southeastern side of the site would be removed by mining activities. There is no factual material to support this claim. The DEIS itself does not even contain a map showing the extent of bluff removal, although Figure 6 in Appendix A shows that virtually all the hillside for nearly a half mile inland will be removed from a height of over 300 feet down to approximately 25 feet. Thus, the 200-foot “vegetated buffer” is simply a small berm in front of a large hole. Any breach in this buffer over time could dramatically change the contours of the shoreline in this area through erosion and storm events. Please provide an analysis of the shoreline dynamics of this area over a 50, 100, and 250 year time span.

Ortman, David

Response

It is generally accepted that erosion of bluffs or hillsides is significantly reduced by vegetation. Thus, in this case, lack of erosion leads to less sediment input to the beach. There are varying extents to which the bluff is vegetated, and past mining activities have undoubtedly influenced the vegetation extent and composition. However the erosion potential due to past mining activity is beyond the scope of this EIS. The Proposed Action would include a 200-foot buffer as required by King County. Additional mitigation has been added to Chapter 11 of the FEIS to increase the buffer along the bluffs at the western and eastern ends of the property, as shown in Figure 11-8.

6.3.5.1 Proposed Action

No comments were received that specifically addressed this section.

6.3.5.2 Alternative 1

No comments were received that specifically addressed this section.

6.3.5.3 Alternative 2

No comments were received that specifically addressed this section.

6.3.5.4 No-Action

No comments were received that specifically addressed this section.

6.3.6 What effect would the project have on geoduck clam harvest by the Puyallup Tribe?

Comment A-1.017

Section 6.3.6. The DEIS needs to take into consideration that the State of Washington also has fishing rights on the Maury Island geoduck tract adjacent to the project site. Between the state and Tribe, there could potentially be harvesting at the Maury Island tract throughout the year ... both harvesting at the same time the number of harvest boats in the area could increase significantly. This should be considered in this section.

Washington Department of Natural Resources

Comment A-1.018

This section only addresses the effects of barge loading operations on geoduck harvest. The DEIS should include an analysis of the impact on geoduck harvest from barge traffic to and from the dock. I suggest timing barge traffic to and from the dock to be limited to when there is no fishing or when boats are not fishing in the area where barge traffic will occur.

Washington Department of Natural Resources

Comment A-1.019

The DEIS should assess the impacts of prop wash on geoduck harvesters that will be working in the vicinity of the loading dock.

Washington Department of Natural Resources

Comment G-3.019

19. 6 2 2 2. Section 6 3 2, Accidental Spillage, contains no discussion on the impact to the state budget from losses of revenue from reduced geoduck harvest. All losses of shellfish, commercial and recreational, should at the very least be mitigated-which this DEIS fails to discuss.

People for Puget Sound

Response

Harvesting of a geoduck tract is typically concentrated in a small area for the full harvest limit of 2.7 percent of the regional biomass. This is done to localize harvesting impacts and to potentially aid recruitment to the harvested site by leaving surrounding beds intact. If an agreement with WDNR and the tribes can be reached, the area could be harvested prior to any construction or barging activity at the site. If no agreement can be reached, compensation for lost harvest would be necessary.

Comment I-17.024 (repeated) ... no mention of recreational harvest of geoducks at low tide by residents over the past hundred years.
Putnam, Joshua

Response The recreational harvest of geoducks at low tide would not be impacted by mining or barging operations. See FEIS Section 6.3.2 for discussion about potential impacts from spillage during loading.

Comment C-12.016 What is the current access and ownership around the dock? How will that change? What is the economic impact of that change?
St. George, Brian

Response The WDNR has jurisdiction of aquatic lands in Puget Sound. People currently have free access to the beach and would continue to have safe passage under the Proposed Action and alternatives. Economic impacts are not relevant to the EIS analysis.

Comment I-9.015 The proposed increase in mining and barging of materials will adversely affect harvesting geoduck clam in the project vicinity.
Mackey, Cyndy

Response The mining and barging would impact geoduck harvest only in the immediate vicinity of the dock.

6.3.6.1 Proposed Action

No comments were received that specifically addressed this section.

6.3.6.2 Alternative 1

Comment A-1.027 DNR also requires access for geoduck harvesting. Any alternative which limits barge operation to daylight hours increases potential conflict with geoduck harvesting.

Washington Department of Natural Resources

Response Comment noted. See Section 6.4.3.14 for a mitigation measure to address conflicts with geoduck harvest.

6.3.6.3 Alternative 2

No comments were received that specifically addressed this section.

6.3.6.4 No-Action

No comments were received that specifically addressed this section.

6.3.7 Would the noise and vibration from pile driving or barge loading affect salmon and other marine animals, including whales?

General Considerations

Comment A-1.020

Section 6.3.7.1 p. 6-15. Barge loading will create noise and vibrations underwater. The studies cited in this section, and most of the discussion, refer to short term impacts of pile driving and dock maintenance and repair. Noise impacts of barge loading operations need to be addressed separately. This will need to be included in the monitoring and mitigation plan.

Washington Department of Natural Resources

Comment

6.15.1 What is the basis for the last sentence in this paragraph [page 6-15]?

Kuperberg, J. Michael, Ph.D.

Response

Section 6.3.7 of the FEIS contains additional analysis of the effects of noise on salmon and other marine organisms. The size of the sand and gravel being loaded will be typically less than 2 inches in diameter. This will generate some noise when initially falling into an empty barge. A downspout is discussed in Section 6.4.3.12 to minimize this distance (as well as wind exposure). The level of noise generated by gravel loading is not expected to affect juvenile salmon behavior based on their hearing thresholds. The most intense noise would occur for limited duration (until a layer of material is covering the bottom of the barge) and would be located at the end of the dock away from migrating juvenile salmon.

Comment

Section 6.3.7 of the DEIS asks, “Would the noise and vibration from pile driving or barge loading affect salmon and other marine

animals, including whales?” Section 6.3.7.1 states on page 6-13 “Adult salmon would easily be able to avoid the immediate vessel traffic and propeller wash in the offshore subtidal zone and would not, therefore, be affected by the Proposed Action.” There are no references in the DEIS regarding this conclusion and there are no studies shown that were conducted for the DEIS to support this conclusion. The conclusions need to be supported by adequate review of the literature and/or an independent study. Please provide that information.

Nelson, Sharon K.

Comment

Page 6-15 States, “As is the case with most animals, salmon are expected to tolerate certain constant noises and disturbances ... Based on these considerations, the overall magnitude of the effects on salmon from barge loading and dock repairs at the Maury Island site would be relatively minor. The effects could be reduced even lower by restricting construction activities as recommended by WAC 220-110-271 (no construction between March 15 and June 14 of any given year). There are no citations of literature regarding noise toleration of salmon, particularly of salmon in locations with ongoing barge loading with sand/gravel being dropped from a height of the dock on Maury Island, please provide same and please include information that discusses loading of the barges of the size/configuration planned for Maury Island. Please provide information regarding noise analysis conducted at the Maury Island site based on current conditions at the site vs. that with barge loading. Please provide modelling, noise analysis, literature regarding the effects of the noise/impacts on all species, including chinook salmon, herring, surf smelt, sand lance, ling cod, and rockfish from the barges (size, specifications and/or alternatives size, specifications for the barges should be included). This modelling, noise analysis, review of literature should include information regarding impacts with the drop to the barge at high tide, medium tide, low tide on Maury Island. Noise from the conveyors should also be included, as should lighting.

Nelson, Sharon K.

Response

Further analysis of the effects of noise and light on sensitive species is included in Sections 6.3.7 and 6.3.9 of the FEIS. More detailed mitigation measures are described in Section 6.4.

Comment C-8.073

7.5 Noise; Cumulative Impacts. The cumulative impacts of this project on the existing noise levels surrounding the site would exceed King County’s noise regulations. In addition, they would exceed the EPA’s noise level increase threshold of increases in

ambient noise levels of 10 dBA. There is no evaluation of the noise levels on wildlife, on salmonids (listed as endangered species), rockfish, lingcod, Pacific herring, or other wildlife in the area. The cumulative impact section must be redone with adequate attention provided to these factors. Please include discussion of noise impacts from dock repairs on these species, horses, and wildlife as well. (See also Section 7.5 and 6.3.7.)

Vashon-Maury Island Community Council

Comment G-3.029

29 Chapter 7. This chapter fails to analyze the impacts of noise on marine species. In the case of barge loading, the potential impact of noise on sensitive species such as chinook salmon and Pacific herring could be significant and unavoidable.

People for Puget Sound

Response

Section 6.3.7 of the FEIS includes further discussion and analysis of noise effects on marine species.

Salmon

Comment A-2.008

(part 1 of 4). 6.3.7.1 Chinook salmon: (currently listed under the Endangered Species Act [ESA]): page 6-14, 2nd paragraph, states that concerns for migrating juvenile salmon are not an issue at the Maury Island site because no significant rivers are nearby. Juvenile Chinook salmon have been documented by divers from Jones and Stokes Associates. Although there are no known streams or rivers in the vicinity of the site that contain Chinook salmon, the migratory routes of juveniles are not well documented and it is known that juveniles travel close to the shoreline anywhere from days to months. Juvenile Chinook salmon have been observed close to shore near West Point (Seattle) as late as August. Noise from mining operations could impact juvenile salmon by driving them to deeper waters and exposing them to predators.

Washington Department of Fish and Wildlife

Comment I-1.030

... applicant states that the “primary concern is related to juvenile migration, feeding and rearing,” but discounts potential project effects because the project site is not near the mouth of a river.

Shipley, Frank

Response

The importance of the lack of rivers in the vicinity of the site relates to the reported increased vulnerability of juvenile salmon while they are adapting to the saltwater environment and are

therefore restricted to a freshwater surface lens (Anderson 1990). Because there are no significant freshwater inputs near the site and Maury Island is an island, juvenile salmon that are present at the site (a) are adapted to saltwater and (b) have already negotiated deep water to access the shoreline habitat at the site. In other words the salmon at the site are no longer in their most vulnerable state. That is not to say that there are no significant threats to salmon at the site. The FEIS recognizes the importance of shoreline habitat for juvenile salmon feeding and refuge for significant periods after they have adapted to saltwater.

Comment G-3.027

(part 1 of 2). 6.3.7. This section contradicts itself, saying first that the migration of juvenile salmon “is not an issue at the Maury Island site,” and then that “it follows that juvenile salmon occur near and around the existing dock and, in particular, close to low-tide level where some eelgrass beds are present.” It would be helpful, in analyzing the impact, to know which is true. The section then goes on to discuss pile driving while ignoring barge loading—a very large potential impact on juvenile salmon, which spook easily. If, as suggested in this section, pile driving should be prohibited from March 15 to June 14, then it follows that barging should be prohibited during salmon migration periods.

People for Puget Sound

Response

These statements are not contradictory when taken within the full context of the passage in which they occurred. Please refer back to the DEIS for the full context of the quotes referenced above. The full statement from the DEIS is:

“Therefore, the most serious concern for migrating juvenile salmon (impacts during the relatively vulnerable time when fish are transitioning from a freshwater to a saltwater metabolism) is not an issue at the Maury Island site.”

Since there are no significant freshwater inputs near the site and Maury Island is an island, juvenile salmon that are present at the site (a) are adapted to saltwater and (b) have already negotiated deep water to access the shoreline habitat at the site. In other words the salmon at the site are no longer in their most vulnerable life-cycle state.

The second quote from the DEIS is preceded by the sentence:

“Therefore, essentially all shallow shoreline areas are potential juvenile salmon rearing and migration habitat during spring and early summer. It follows that juvenile salmon occur near and around the existing dock ...”

The FEIS recognizes the importance of shoreline habitat for juvenile salmon feeding and refugia for significant periods after they have adapted to saltwater.

The size of the sand and gravel being loaded will be typically less than 2 inches in diameter. This will generate some noise when initially falling into an empty barge. A downspout is discussed in Section 6.4.3.12 to minimize this distance (as well as wind exposure). The level of noise generated by gravel loading is not expected to affect juvenile salmon behavior based on their hearing thresholds. The most intense noise would occur for limited duration (until a layer of material is covering the bottom of the barge) and would be located at the end of the dock away from migrating juvenile salmon. See FEIS Section 6.3.7 for further information about salmon hearing thresholds and responses.

Comment A-2.008

(part 3 of 4). Increased turbidity from fine-grained sediments could decrease or eliminate epibenthic organisms which are a critical food item for juvenile salmon.

Washington Department of Fish and Wildlife

Response

The largest risk from turbidity and fine grained sediments is the reduction in light reaching eelgrass.

It is possible that there may be effects on epibenthic and epiphytic organisms from high levels of turbidity and fine sediment.

However, levels of turbidity and fine sediment at the site are not expected to be high enough, or long enough in duration, to alter total food availability.

Comment A-2.008

(part 4 of 4). Diatoms were also observed to be common in the area and are important to salmon because they provided food for zooplankton which in turn provided food for juvenile Chinook salmon. Significant gravel spills could alter the ecosystem within this area and be detrimental to a wide variety of marine organisms.

Washington Department of Fish and Wildlife

Response

Diatoms are ubiquitous in the marine environment. Recolonization and reestablishment of the benthic diatom community occurs rapidly, on the order of hours to days. Planktonic and benthic diatom populations are controlled by nutrient availability and other factors on a regional, not site-specific, scale. Import and export of phytoplankton-derived primary production, to and from the site, would override any local perturbations to the system. In other words, a local spill would have only a localized and short-term effect and not alter the ecosystem. There would not be a change in zooplankton abundance based on a short-term and localized reduction in the availability of diatoms. However, that is not to say there would be no effect from a spill. A spill could alter community structure for higher trophic levels, such as shellfish beds, through direct burial.

Comment G-2.019

19. 6.3.7.1. Construction activity in water especially near eelgrass beds has the potential to harm salmon rearing habitat. The migration and spawning periods for all salmon needs to be evaluated and presented to better determine the total effects to the fish.

Washington Environmental Council

Response

Further analysis and discussion of potential impacts of construction activities are included in Section 6.3.8 of the FEIS.

Comment I-1.031

Some salmon diseases appear during the 3 months following smoltification, and are exacerbated by human-induced stress. This is the time during which near shore migration, feeding, and migration occur—not limited to -22 feet MLLW.

Shipley, Frank

Response

Studies reporting exacerbation of diseases by “human induced stress” are typically referring to stress caused by the direct human handling of fish, such as in hatcheries, around dams, down river transport by barge, etc. Although noise and activity at the site may induce stress for juvenile salmon, the effects are unlikely to be of a comparable scale or duration.

Herring, Sand Lance, and Surf Smelt

Comment A-2.010

Forage fish (sand lance and surf smelt): Forage fish are an important food fish for salmon. Sand lance were documented by Jones and Stokes to be abundant and during the WDFW site visit schools of what appeared to be sand lance (judging by their schooling behavior) were observed. Although no sand lance or surf smelt spawning have been documented in the area thus far, surveys have not been conducted on a regular basis and habitat has been documented further south at Pioneer Point. It appears from personal observation that the beach composition is suitable for supporting both sand lance and surf smelt spawning grounds.

Washington Department of Fish and Wildlife

Response

Surf smelt and sand lance were observed at the site during eelgrass surveys conducted July 24 and August 1, 1999. Surf smelt and sand lance are considered in the FEIS, Sections 6.2.2.4 and 6.2.2.5, respectively, although much less is known about their requirements and tolerance thresholds than is known for other sensitive species. It is unlikely that the Proposed Action would significantly affect surf smelt or sand lance spawning habitat (upper intertidal). The Proposed Action would cross the upper intertidal zone only by use of the dock. Effects of dock repair in the upper intertidal zone would be minimal, localized to a few pilings, and of limited duration. Sediment contribution would not affect eggs or larvae because they are adapted to a dynamic sandy environment. Natural wave erosion/deposition dominate upper intertidal sediment conditions even in the absence of project activity. Sand lance are obligate upper intertidal spawners, depositing eggs in beach sand/gravel substrate between the mean high tide line and about +5 feet in tidal elevation. Broods of eggs incubate in the beach for about 1 month after which larvae enter the nearshore plankton. Sand lance spawn from November through February and may spawn several times at any given site. Sites appear to be used year after year (Bargmann et al. 1998). The disturbance to potential sand lance spawning habitat would be minimal and therefore would not lead to a cascading effect on other higher trophic levels.

Comment G-3.021

(repeated) 21. Section 6.3, Impacts, fails to discuss the impacts of noise and lights on the behavior of these species. Impacts to spawning, feeding and other behaviors should be mitigated, and, as stated above, a decision on this permit should be held until NMFS completes their assessment of the status of Pacific herring. These three species comprise the majority food resource for chinook

salmon. In light of the threatened status of Puget Sound chinook, barging activity should at the very least be prohibited during spawning periods from October to April.

People for Puget Sound

Response

Sections 6.3.7 and 6.3.9 of the FEIS contain additional analysis and discussion on the effects of noise and light.

Comment G-2.003

3. It is well documented that herring, among other schooling pelagic fish, are highly sensitive to noise and disturbance and have been known to abandon their spawning grounds if there is too much disturbance (Mitson, 1995; Schwartz and Greer 1984). Pacific herring have been documented to be sensitive to the sound of some commercial fishing vessels (Canadian purse seiners) at a distance of up to one mile (Schwartz and Greer, 1984). In another example, herring on Annette Island, Alaska, were observed to leave their own spawning grounds after being subjected to several days of commercial fishing vessel traffic (gill-netters 24 to 40 feet in length) (H. Leon, personal communication). The EIS must address the potential impacts to herring, salmon, and other fish, provide for monitoring of operations, and detail contingencies if significant impacts occur. The monitoring plan developed for the proposed Gateway Pacific Terminal at Cherry Point should serve as a model for a monitoring plan for the Lone Star project.

Washington Environmental Council

Response

See FEIS Section 6.3.7 for further analysis and discussion of the effects of noise on fish. For herring, sounds of approaching large vessels are recognized to cause “avoidance”, defined in the Schwartz and Greer (1984) study as a “mildly negative behavior ... [in which a] school then moved slowly away from the sound source, swimming directly to the far side of the pen ...”. The FEIS evaluates this potential impact on herring.

The Schwartz and Greer (1984) study also states that for sounds made by large vessels approaching, “Avoidance ended within 10 seconds after the vessel began departing and its noise began diminishing in intensity ... [but the fish] did not approach the surface again for 1-3 min more.” The authors also state that “... it is not known whether fleet concentration in a few areas over several seasons can influence the fish away from those areas for a prolonged period of time.” Vessel activity occurs commonly around and over known herring spawning sites in the general area with no documented negative response (e.g., the marina at

Quartermaster Harbor). Some occasional short-term site avoidance may occur but no long-term or larger scale impact is expected.

Pacific Cod and other Fish

Comment A-2.011

Pacific cod & walleye pollack: (currently under review for ESA listing) although neither of these species have been recorded at this site, there is concern that juveniles may utilize eelgrass beds near the pier. The topography and shoreline features within this area are similar to other areas where cod and pollack have been documented (Des Moines area, Saltwater State Park). Literature searches should focus on whether or not cod or pollack have been documented in the vicinity of the proposed barging facility.

Washington Department of Fish and Wildlife

Response

No literature was found indicating cod or pollack utilization of the site at any life history stage. However, additional mitigation is discussed (Section 6.4) to avoid and minimize loss of eelgrass habitat.

Comment C-8.057

6 3 7. Please provide additional discussion of impacts of noise and light on rockfish, lingcod, pacific herring, geoducks, sand lance, and impacts of artificial light on eelgrass. The EIS currently is inadequate and does not provide adequate discussion of these issues.

Vashon-Maury Island Community Council

Response

See FEIS Sections 6.3.1, 6.3.7, and 6.3.9 for a discussion of the effects of noise and light on marine species. No studies specifically examining noise and light effects on lingcod and sand lance were found, however, the octavolateralis (ear and lateral line) system of these fish is presumably similar to other fish for which studies are available. Therefore, the effects on these fish would not be expected to differ greatly. Some short-term avoidance may occur but no significant detrimental effects are expected as the fish habituate to the new activity levels.

Artificial light increases total irradiance available to eelgrass and would be considered beneficial to eelgrass. Artificial lighting may, however, have potentially negative effects on other marine organisms (e.g., attraction/avoidance by juvenile salmon).

Comment A-2.009

Rockfish: brown and copper rockfish (currently under review for ESA listing) and other species of rockfish have been observed swimming beneath the pier. Negative impacts resulting from barging activities would be similar as those identified for Chinook. Washington Department of Fish and Wildlife

Response

Although there may be negative effects on rockfish due to substantial spillage or damage to the sunken barges, the potentially negative effects on salmon from barging would not necessarily be negative for rockfish. Brown and copper rockfish are demersal or sedentary species and occupy small home ranges (approximately 30 square meters) on habitats with vertical relief. Structures such as dock pilings or substrate mounds create rockfish habitat. The disturbances generated in the area during construction or if substantial spillage occurs could have a negative short-term effect, but result in a long-term increase in habitat. Other effects on rockfish, such as site avoidance due to noise or loss of habitat due to propwash damage to the “reef” habitat, are considered further in the FEIS.

Marine Mammals

Comment C-6.013

(part 4 of 4). The DEIS does not address...the value of the marine waters off the SE shore of Maury Island for winter feeding [by orcas]. The DEIS gives a misleading impression of winter month feeding by orcas off the shores of Maury Island. Vashon-Maury Island Community Council

Comment G-3.027

(part 2 of 2, repeated in 6.3.7). This section incorrectly states that the site is not a migration route for marine mammals and that killer whales “do not occur regularly off the shores of Maury Island”. Resident Orca pods J and K migrate several times each year, if not at precise dates, around Point Robinson south to The Narrows and back again. People for Puget Sound

Comment

The discussion of impacts on marine mammals is ridiculous. ... The project site is very much a major migration area -- not in terms of the world’s whale population, but in terms of the J-pod of resident whales that ventures past in search of dwindling food supplies. The FEIS must have a more complete analysis of this point. Means, Shelley

Comment

Orcas (killer whale) migration. the DEIS makes no mention of the annual Orca migration by the well-known “J” pod, that circles Vashon-Maury Islands frequently from October through March, hugging the shoreline closely at Point Robinson and Maury Island. Quoted from the draft EIS:

“Killer whales are the most commonly occurring resident whale species, although they do not occur regularly off the shores of Maury Island.”

Not only is this false, Lonestar’s EIS consultants continue to mislead the reader by writing ...

“They [orcas] are not expected to be affected by the project since they have been shown to be adapted to the presence of humans and related noises and activities.”

Yet no evidence is cited to support the above statement.

Huggins, Alan R.

Response

The FEIS has been modified to reflect orca (killer) whale presence near Maury Island, although the Proposed Action is not expected to significantly impact orca whale migration, feeding, or breeding. Further effects on marine mammals are addressed in Section 6.3.7 of the FEIS. The project would not affect winter feeding habitat, nor would activities at the site result in significant avoidance of the marine waters off the southeast shore of Maury Island, although it is expected that whales would avoid areas near tugs and barges.

Comment I-1.028

applicant concludes ... Killer Whales are “adapted to the presence of humans and related noises and activities” in spite of the fact that the Puget Sound population of orcas is in decline for reasons hypothesized to relate to human noises and activity.

Shipley, Frank

Response

The factors contributing to the decline of Puget Sound orcas are complex and poorly understood. No causal link has been identified between human noise and activity (boating and other indirect actions) and the orca declines. Orcas are highly tolerant of boat and other marine noises encountered in Puget Sound. The hypothesized causes of orca decline relating to human activity are typically attributed to such factors as inputs of toxins or overharvesting of prey species such as salmon.

Comment 6.15.4 It should be pointed out the “times when barges are being loaded” is proposed to be 24 hours per day. Thus harbor seals would be excluded from the area continuously.
Kuperberg, J. Michael, Ph.D.

Response Comment noted.

Comment G-3.027 (part 2 of 2). This section incorrectly states that the site is not a migration route for marine mammals and that killer whales “do not occur regularly off the shores of Maury Island”. Resident Orca pods J and K migrate several times each year, if not at precise dates, around Point Robinson south to The Narrows and back again.

People for Puget Sound

Comment C-12.017 Noise and vibration affect marine mammals ... marine mammals are very sensitive to noise.
St. George, Brian

Response The FEIS has been modified to reflect orca migrations. The typical range of the Southern Resident orca community encompasses the entire inland waterways of Puget Sound, the San Juan Islands, and the Georgia Strait in Canadian waters, a large river-fed estuary known as the Salish Sea. They are known to travel at least 300 miles up and down the coasts of Washington to the south and along Vancouver Island to the north. It is not known how far offshore into the Pacific Ocean they may travel. They usually swim from 75 to 100 miles every 24 hours. There is no indication that the waters off Maury Island represent a preferred or unique habitat for orcas. The activity from the Proposed Action is not expected to have any significant effect on migration patterns of orca or other marine mammals. There is no indication of regular use of the site itself by marine mammals and potential impacts are not expected.

6.3.7.1 Proposed Action

No comments were received that specifically addressed this section.

6.3.7.2 Alternatives 1 and 2

No comments were received that specifically addressed this section.

6.3.7.3 No-Action

No comments were received that specifically addressed this section.

6.3.8 How would dock repairs and/or maintenance impact marine habitats?

Comment A-1.021

Section 6.3.8.1 p. 6-16. Short term turbidity from removal of the 30 piling for replacement must be considered here. The piling should be removed with a method which reduces resuspension of sediments. Cutting the piling at the sediment surface will not be acceptable for those piling on state-owned aquatic lands.

Washington Department of Natural Resources

Comment A-2.005

6.3.8.1 Paragraph 6 states that Existing failed pilings would be left in place or cut off at the sediment surface to prevent unnecessary sediment disturbance. The WDFW will require that all failed pilings be removed.

Washington Department of Fish and Wildlife

Comment A-2.006

(repeated). According to the DEIS, work on the pier would require replacement only, with no additional pilings needed except for the one new dolphin (10 pilings). During the site visit appeared that the end of the pier (at the "T") had virtually no bracing. The few existing timber bracing piles were rotted and nonfunctional. Given that the most common barge size would have a 10,000-ton capacity, it would seem that significant amounts of timber bracing would need to be added in order to maintain the integrity of the pier during storm events when the barge would be jarring against the pier. The WDFW questions the accuracy of the statement that only replacement piling shall be required for dock repairs.

Washington Department of Fish and Wildlife

Response

The FEIS includes additional analysis of the potential impacts from dock repair and maintenance (Section 6.3.8). King County has conducted an independent assessment of dock integrity and required repairs.

Comment C-12.018

What effect will the removal of the old pilings have on mollusk habitat?

St. George, Brian

Comment C-6.014

The DEIS does not include documentation to support the conclusion that dock repairs would not alter the survival rate of eelgrass and algae in the area. Studies have shown reduced light for one to two weeks results in the death of plants. The DEIS does not address the point that juvenile salmon may be able to avoid temporarily turbid water, but this will make them more vulnerable to predation.

Vashon-Maury Island Community Council

Response

Section 6.3.8 of the FEIS provides additional analysis of the effects of dock repairs and maintenance on marine habitats and salmon.

Comment A-2.020

Dredging: The potential need for dredging was not addressed in the DEIS. Further analysis shall be required addressing how often dredging will be needed (if at all) based on similar gravel-loading operations in Washington state or elsewhere. Detailed information shall be needed pertaining to draft requirements of the large barges and estimated annual spillage rates. If dredging is required, mitigation shall be required for impacts to marine vegetation, geoducks, and potential loss of fish life.

Washington Department of Fish and Wildlife

Comment C-4.010

Hull sizes and bottom depths need to be disclosed for proper evaluation of effects.

Vashon-Maury Island Community Council/Thomas McKey

Comment C-4.012

Substantial dredging will be necessary to accommodate the operation. What depth will be maintained? What area will be dredged? What equipment will be used? What will be done with spoils? What will be the turbidity? What is the toxicity of dredged material? How will the dredge vessel maintain position?

Vashon-Maury Island Community Council/Thomas McKey

Comment C-4.018

The DEIS does not address potential impacts of initial dredging or periodic maintenance dredging to remove spilled material at the pier front. Nor does the document provide detailed information regarding water depths along the shoreline. What will be the draft of the dredge vessel? What are the relevant characteristics of any vessel tendering or positioning the dredge? How and where will the dredge be secured, and where is that in relation to eelgrass beds and other sensitive areas? What vessels are proposed to be used, and what depth of water is required to accommodate them?

Vashon-Maury Island Community Council/Thomas McKey

Response

The proposed project does not call for dredging. Addition of dredging would be considered a major alteration in the project and would be subject to additional review under SEPA, Shoreline Management Act (SMA), Army Corps of Engineers, WDNR lease agreements, and Tribal authority.

The current depth at the end of the dock is –20 to –30 feet at MLLW. A loaded 10,000-ton barge has a draft of 16 to 17 feet. Timing of barge loading to avoid extreme low tides has been added as a measure to avoid grounding or a potential change in dredging requirements (see Section 6.4.3.10).

Comment C-8.058

6 3 8 Installation of approximately 30 new dock pilings and fresh heading 10 existing pilings are noted as required dock repairs. However, in Section 2.2.3.6 Dock Repair, Page 2-7 and Section 9.2.7, Page 9-12, it was noted that in addition to 30 new dock pilings and 10 fresh heading pilings that one dolphin would be replaced with 10 pilings driven in a circular pattern and 2-3 pilings per dolphin for the remaining dolphins, of which there are 9. This means that in addition to the 30 new pilings, 28 to 37 other new pilings would be required to repair the dolphins. This doubles the suggested level of potential disturbance. This under representation of potential disturbance does not allow the agencies or the public to adequately assess the potential damage of this process. Please provide diagrams of the proposed repairs. Provide information regarding core sampling of the pilings and information regarding any worm, bivalve or other marine borers, which may have damaged the dock, including teredo navalis. Correct Section 6.3.8.1 to accurately reflect the number of pilings required. Section 6.3.8.1 states that “Dock repairs would be completed in about 2 to 4 weeks, which is not long enough to alter the survival rate of eelgrass and algae in the area.” Please review the literature regarding the number of hours per day of light required by Z. marina and review the literature regarding turbidity on eelgrass. The EIS should be revised to quantify the expected loss of eelgrass at this site from repairs. The EIS needs to state how much sediment will be disturbed, and what the length of time that the temporary increase in turbidity is expected. The EIS should discuss whether the eelgrass population at the site was impacted by past operations, including repairs without a permit. Revise Table 6-1 to reflect accurate data. The statement that no spawning beds are located where the dock and related construction work would occur is unsubstantiated without diagrams of which dolphins, dock pilings, require repair. The statement is unsubstantiated without a formal review of Pacific herring and

sand lance spawning, and consideration of lingcod and rockfish habitat vs. where repairs will occur. No testing of sediment is proposed or suggested—please correct this deficiency. The EIS reviews a dated study of currents in the area, at a point 1.9 miles from the site. Without a specific study of currents at this site, there is no way to evaluate the potential impact currents would have on the distribution of sediment at this site. Provide an analysis of currents which is adequate for assessing their potential impacts at the site. Please also note that the reference cited (McGary and Lincoln 1977) is not adequate to support the conclusion. The authors clearly indicated that the charts did not accurately indicate “flow behavior near the shoreline, in restricted small bays or inlets or shallow areas”. An analysis of bottom speed in relationship to prop wash and its impact on the nearshore environment is missing and needs to be provided in the EIS. The analysis regarding sediment disturbance is inadequate. Please provide further discussion including volumes of sediment, which would be disturbed, impacts of tides, and turbidity analysis.

Vashon-Maury Island Community Council

Response

The FEIS provides additional discussion about the impacts expected from proposed dock repairs. Additionally, King County has independently assessed the integrity of the dock and the required repairs and maintenance. Further discussion is provided in Section 6.3.8 of the FEIS. Additional discussion about the light requirements of eelgrass is included in Section 6.3.1. The analysis of currents is based primarily on a study of a site 1.9 miles north of the Glacier Northwest site completed by FishPro in 1989. The FishPro study was done using current drogues and current meters. These results from the FishPro study were in turn compared to the McGary and Lincoln (1977) study, which indicated similar results. Further discussion of the effects of sediments and turbidity is provided in Section 6.3.4.

Comment O-1.287

(repeated in 2.2.3.6). 6.3.7.1 p. 6-13 and 6.3.8.1 p. 6-16. These section states that pile driving would create noise and vibrations underwater and that installation of approximately 30 new dock pilings and “fresh heading” 10 existing pilings would take place. However, in Sec. 9.3.1.1 on p. 9-15 it appears that far more pilings would be involved. Please clarify why Jones & Stokes has listed 30-40 pilings as needing replacement or repair on page 6-16 and 60-70 pilings on page 9-15.

Ortman, David

Response

See FEIS Sections 2.2.3.6 and 6.3.8 for an evaluation of independent assessments of dock repairs likely to be necessary. The new dock assessments (included in the FEIS as Appendixes F, G, and H) addresses the following questions:

- Approximately how many pilings would need to be replaced on the dock, fenders, and dolphins to make the dock capable of operating as proposed by the Applicant?
 - Assuming relatively constant use, approximately how often would repairs need to be conducted and what would be the extent of those repairs?
 - Over the long run, would replacement of the existing dock with a new, low-maintenance dock result in less in-water work?
-

Comment I-2.018

What is the implication of rebuilding that dock further out into the Sound while disturbing fish habitat?
Clark, Rose

Response

The proposal does not call for “rebuilding of the dock further out into the Sound.” However, extending the dock further from shore would lessen the impacts on the nearshore environment and is included as a mitigation measure in Section 6.4.3.

Comment C-4.014

Some of the piling work will be done in very shallow water and some up the intertidal zone. Nothing is said about tidal heights and currents.
Vashon-Maury Island Community Council/Thomas McKey

Comment C-4.013

What is the pile driver’s draft or other characteristics affecting propwash or bottom scour?
Vashon-Maury Island Community Council/Thomas McKey

Comment C-4.016

The entire area of the bottom in the region of the dock including its life forms and eelgrass beds will be pretty scoured, prop washed, silted, pockmarked with holes, piles of rock, sand, silt and other debris or hauled away before loading out of mining output can even begin.
Vashon-Maury Island Community Council/Thomas McKey

Comment C-4.015

There will be a lot of repositioning and of replanting of spuds or anchors to drive the 57 piles and lift the other ten. The same questions about vessel characteristics need to be raised, and dredge

turbidity and toxicity. How will the new piles be brought in? What are the vessel characteristics? How many trips, and how many over shallow water? What are the limits of weather for pile driving at the site?

Vashon-Maury Island Community Council/Thomas McKey

Response

Section 2.2.3.6 and Section 6.3.8 of the FEIS contain information and discussion about the dock construction activities.

The FEIS recognizes that the dock repair work will cause impacts to the habitat located in the immediate area of active construction. Additional mitigation measures to avoid or reduce these impacts are proposed in Section 6.4.

Comment C-7.011

If you put fill into a contaminated barge and then dump it onto an aquifer, how contaminated does the aquifer become?

Brown, A.

Response

The barges used for this operation would not be “contaminated” because contaminated soil would be contained onsite. The use of fill produced from the proposed mining operation, in terms of “dump[ing] it onto an aquifer,” is beyond the scope of this EIS.

Comment C-7.012

What is the impact to the Sound if a barge tips over? How much will the additional Coast Guard staffing cost to monitor the large increase in Sound traffic? Why was there no mention of increased staffing needs? Why were there no meaningful assessments made of the impacts of inevitable barge accidents, considering the high frequency for multiple year crossing ferry routes and other Sound traffic, and conveyor permit requests indicating the intent was to barge every day, regardless of weather?

Brown, A.

Response

This operation would consist of a maximum of four barges coming and leaving the site per day. The tugs and barges used at this facility would not represent a significant net increase in regional activity. Impacts on marine transportation routes are assessed in Chapter 8.

Comment C-8.062

6 3. Please provide modeling showing the movement of sediments at the site and impacts on the nearshore. Please provide modeling showing total impacts of the project, including but not limited to current flow, sedimentation movement, erosion rates, impacts of spillage and residence time of construction associated with turbidity events. Please provide modeling showing sediment spillage from the conveyor, as well, as the tug/barges in relationship to movement of sediments at the site and impacts on the nearshore.

Vashon-Maury Island Community Council

Response

Modeling can be effectively utilized to determine impacts associated with activities in clearly defined situations under clearly defined parameters. The use of modeling to determine the impacts for many issues with high intrinsic rates of natural variability (i.e., local currents, erosional patterns) is of limited utility and was not applied. Instead the impacts were evaluated based on tolerance levels and thresholds for sensitive species in comparison with levels of disturbance within the range expected at the site.

Comment

What is the extent of dilution by waves and currents to arsenic previously deposited in Puget Sound? What are the current concentrations of arsenic in near-shore sediments?

Kuperberg, J. Michael, Ph.D.

Response

Studies conducted by the Washington Department of Ecology included analysis of marine sediments collected offshore from the project site. No contaminants, including arsenic, were detected.

Comment G-2.004

4. Another area where the DEIS fails to adequately consider complexity of the ecosystems within the site involves eelgrass communities. Eelgrass provides critical spawning habitat for herring and rearing habitat for salmon. Given the presence of eelgrass in the mine's conveyor footprint and the need to substantially rebuild the conveyor, it is likely that there will be some loss of eelgrass habitat due to shading. Additional eelgrass may be lost due to spillage of material, prop wash, construction activities and shading from the barges. The EIS must provide a reasonable estimate of lost eelgrass, as well as macroalgae habitat, and discuss mitigation measures. At Cherry Point, when Pacific International Terminals proposed to build the Gateway Pacific Terminal, the state required replacement of herring spawning habitat in a 3 to 1 ratio and has required demonstrated herring

spawning success before construction can begin. Similar mitigation should be required here for loss of eelgrass habitat.
Washington Environmental Council

Response

The FEIS recognizes the potential loss of some eelgrass habitat due to repair and tug operations. Mitigation measures included in the FEIS Section 6.4 address methods to reduce these impacts as well as compensate for the loss of eelgrass if it occurs.

Comment G-3.004

4. The DEIS fails to adequately analyze the impact to the nearshore environment, with major holes in information about eelgrass, chinook salmon and Pacific herring. Considering the potential significant and unavoidable impacts to a species listed under the Endangered Species Act (Puget Sound chinook salmon) and to a species that is currently under review for listing (Pacific herring), DDES should deny this permit.
People for Puget Sound

Response

The FEIS includes additional analysis about the potential impacts to eelgrass, salmon, and herring as well as additional mitigation measures.

Comment G-5.025

25. Will wetlands be impacted by conveyor belts or new piers?
Citizens Against SeaTac Expansion

Response

There are no wetlands at the site. Wetlands will not be impacted by the conveyor belt and new dock repair.

Comment I-1.032

... effects of human induced stress on fish are not limited to small areas around river mouth and they vary with species.
Shipley, Frank

Response

Research on the effects of human induced stress on fish typically refers to stressors such as direct handling, negotiation of dam turbines, downriver barging, etc. Activities at the site are not expected to elevate stress in salmon to a significant level or for a duration significant to cause measurable harm.

Comment O-1.288

This Table (6-2) states that piers, docks, etc. should be located to avoid adverse impact to various spawning beds including lingcod settlement and nursery areas. Since masses of lingcod eggs have been observed on one of the sunken barges (Table 6-1), which is in close proximity where barge loading and tug operations would be conducted, please describe the impact of the proposed operation on this ling cod nursery area.

Ortman, David

Response

The project may affect small portions of the sunken barge habitat. Mitigation has been discussed in Section 6.4 to offset any potential loss of this “reef” habitat.

6.3.8.1 Proposed Action

No comments were received that specifically addressed this section.

6.3.8.2 Alternatives 1 and 2

No comments were received that specifically addressed this section.

6.3.8.3 No-Action

No comments were received that specifically addressed this section.

6.3.9 New Section: How would artificial light from the project affect marine life?

Comment G-3.021

(repeated) 21. Section 6.3, Impacts, fails to discuss the impacts of noise and lights on the behavior of these species. Impacts to spawning, feeding and other behaviors should be mitigated, and, as stated above, a decision on this permit should be held until NMFS completes their assessment of the status of Pacific herring. These three species comprise the majority food resource for chinook salmon. In light of the threatened status of Puget Sound chinook, barging activity should at the very least be prohibited during spawning periods from October to April.

People for Puget Sound

Comment A-1.036

Chapter 11 There will be definite light and glare impacts to marine life from barge loading and traffic operations. The impacts should be addressed in this section.

Washington Department of Natural Resources

Response

See FEIS Sections 6.3.7 and 6.3.9 for further analysis and discussion of the effects of noise and light on salmon and herring.

Comment

Use of strobe lights on the dock might have other ecological impacts which are not addressed in this DEIS. Please identify them and provide a discussion of their impacts on marine habitat and chinook salmon, rockfish, lingcod, sand lance, surf smelt, Pacific herring and teredo navalis.

Vashon-Maury Island Community Council

Response

The use of strobe lights has not been proposed for the dock. Further discussion on the effects of light can be found in FEIS Section 6.3.9.

6.4 Adverse Impacts and Mitigation

6.4.1 Significance Criteria

Comments and questions related to significance criteria are listed under the individual issues.

6.4.2 Measures Already Proposed by the Applicant or Required by Regulation

Comment A-1.023

Section 6.4.1 p 6-17. The monitoring and mitigation plan should include measures to assure no arsenic contaminated materials enter the aquatic environment from any source including (but not limited to) surface water, groundwater, or airborne.

Washington Department of Natural Resources

Response

Contaminated materials would not be located or moved near the aquatic environment. For further discussion see Chapter 10.

Comment A-1.028

Table 6-2 p. 6-24. Section 6 which states “no spawning beds are located where the dock and related construction work would occur” is in conflict with the body of the report which states spawning is likely to occur at this site. Additionally rockfish potentially use the sunken barges and must also be protected. Further investigation for use by sensitive species must occur.
Washington Department of Natural Resources

Response

Table 6-2 has been changed to reflect possible presence of herring spawning beds. Measures to mitigate potential impacts to the sunken barge habitat are proposed in Section 6.4.

Comment A-2.013

6.4.1 Eelgrass: projects that may cause a permanent loss of eelgrass beds must be mitigated for under WDFW Habitat Policy #M5002 in order to achieve no-net-loss of productive habitat. Page 6-18, paragraph 4 (Mitigation Measures section) states that prior to construction a monitoring and mitigation plan would be prepared and a monitoring program initiated. Eelgrass beds (>25 square feet) and patches (<25 square feet) have been documented at various locations within the vicinity of the pier. The Jones and Stokes dive survey documented an eelgrass bed immediately adjacent to and north of the pier approximately 25 feet from where the gravel would be loaded onto the barge and two more beds to the south and north of where loading would occur. Several small eelgrass patches were also documented at the site. Although large, uniformly distributed eelgrass beds can be monitored using standard statistical analysis (comparison of reference plot to disturbed plots using dive surveys), small and unevenly distributed eelgrass beds and patches can be difficult to evaluate because of their inherent variability from year to year. The distribution and density of small patches of eelgrass may vary from year depending on environmental factors such as light, salinity, pH, etc.
Washington Department of Fish and Wildlife

Comment A-2.014

Because of the natural variability (i.e., density and distribution) of eelgrass patches from year to year, standard sampling techniques may be insufficient. Past monitoring studies revealed very high coefficient of variations prior to project construction when diving transects are used for comparison to a reference plot. Other methods may have to be employed, such as aerial surveys using GIS mapping or video surveys using GPS so that total acreage can be assessed. The WDFW will want assurances that project activities will result in no-net-loss of eelgrass and that the statistical design for monitoring be reliable.
Washington Department of Fish and Wildlife

Response An eelgrass survey was completed July 24 and August 1, 1999. The survey included transects through a control plot adjacent to the site. Further monitoring is proposed in Section 6.4 of the FEIS, and comparison to the control plot would be utilized to assess changes at the site. Further design of the monitoring plan will be determined in coordination with WDFW.

Comment A-2.015 Macroalgae: a large bed of macroalgae appears to be located directly below the loading dock (personal observation). A wide variety of finfish, shellfish, and invertebrates reside in macroalgae beds and rely on macroalgae for food sources and protection. There is high probability that this bed could be permanently damaged from gravel spillage. Like eelgrass, WDFW shall require mitigation in order to achieve no-net-loss of macroalgae.
Washington Department of Fish and Wildlife

Response The eelgrass survey indicates macroalgae coverage of some areas at the end of the dock. This primarily consists of *Laminaria* and to a lesser extent *Ulva*. *Laminaria* and *Ulva* occur commonly in many of the other transects and adjacent to the site. The macroalgae beds are not a limited habitat in the area. However, additional mitigation to achieve no net loss has been included in the FEIS Section 6.4.

Comment C-6.015 The DEIS states that dock repairs would follow the requirements for new dock construction, as outlined in Table 6-2, however, this contracts what is shown in the table. The DEIS does not state that the proposed project will comply with WAC 220-110-27. The DEIS does not address the need to maintain the current rate of recovery of this important nearshore habitat—therefore, no loss of eelgrass beds is insufficient. The DEIS does not consider barging only when forage fish are not spawning, juvenile salmonids are not migrating, and eelgrass is least susceptible to light reduction.
Vashon-Maury Island Community Council

Response The FEIS includes a variety of mitigation measures in Section 6.4 designed to reduce or offset impacts to eelgrass.

Comment C-8.059 6 4 1. As noted previously, the Washington Department of Fisheries in their letter comments on the DuPont DEIS, required a fully enclosed conveyor with a telescoping loading mechanism to

both prevent spillage and reduce noise from the process of barge loading. The open conveyor with a jury-rigged spill tray is not adequate to protect against spillage. Please compare the spillage from such a conveyor to that proposed for the site. The marine monitoring and mitigation plan is to be prepared prior to construction. Why is this plan not submitted with this DEIS for public comment — please provide a revision or supplemental DEIS. What kind of contingency plans would be possible if sediment deposition causes a measurable loss of eelgrass? These are not problems which can be successfully restored. The Environmental Protection Agency in their letter commenting on the DuPont DEIS made the following comments: “In addition, the DEIS states that sedimentation may exceed state water quality standards. As the nearshore habitat is utilized extensively by juvenile salmonids as well as other aquatic organisms, state water quality standards should not be exceeded.” While no such statement is made in this DEIS, it is apparent that the applicant anticipates that water quality will be impacted at times during this operation. In the Response to Comments section of the DuPont EIS, it was observed that some incidental pierside spillage occurs at the Steilacoom facility. “It is mostly due to the type of conveyor and loading systems used.” Please compare the type of system at Steilacoom versus the type of system planned for use at the Maury Island site. This DEIS should address the quantity and frequency of spills as well as the volume spilled during specific time periods so the effect of this potential can be fully assessed. Why is the best available science and technology not proposed for the Maury Island site?

Vashon-Maury Island Community Council

Comment

6.18.6 Again, the implementation of an agreement concerning sand and gravel spills may be difficult in practice.

Kuperberg, J. Michael, Ph.D.

Response

A completely enclosed system such as the conveyor at the Dupont facility would require substantial enlargement of the dock and increase disturbance during construction. To reduce the potential for spillage from the conveyor, several mitigation measures have been proposed in Section 6.4 of the FEIS. Monitoring and mitigation for spillage have been proposed in the event that spillage does occur. The FEIS addresses the frequency and quantity of spills estimated for conveyor systems. See FEIS Section 6.3.2 for further discussion.

Comment C-8.064

(part 1 of 3) 6 4 1 # 64. Compliance Analysis of Washington Administrative Code Guidelines Related to Dock Construction, under the heading, WAC Requirement per Chapter 220-110 WAC, HYDRAULIC CODE RULES, (3) Relates to shading of piers, docks, etc., with the report indicating compliance because the major portion of the dock is located in water too deep for eelgrass. This assertion in the EIS is not adequately supported by data or analysis. Indeed, the report describes eelgrass beds located near the conveyor loading area and along the dolphins at the pier face. There is no modeling showing the potential for shading posed by barges being at the pier face during the entire day. The report asserts that shading would not be a problem because the water is deeper than -22 MLLW immediately below the barges. The relative position of the sun in this area is less than 90 degrees even during the summer months. As a result, barge positioning would cause shading shoreward of the pier itself and onto existing eelgrass beds. The lack of three-dimensional models in this report does not permit accurate evaluation of this potential. Please provide 3-dimensional modeling and comments/conclusions regarding same.

Vashon-Maury Island Community Council

Response

See FEIS Section 6.3.1 for further discussion of shading related to the dock and barges.

Comment C-8.101

6 4 1 #101 Table 6-2, "Compliance Analysis of Washington Administrative Code. Guidelines Related to Dock Construction", Under the Heading, WAC Requirement per Chapter 220-110 WAC, HYDRAULIC CODE RULES, (6) Relates to piers, docks, etc, design to avoid adverse impacts to Pacific herring spawning beds and rockfish and lingcod settlement and nursery areas, with the report indicating the applicant's actions would be in compliance since there are no spawning beds located where dock and related construction work would occur. Ignoring and not including data which contradicts the assertions of the writers the DEIS, particularly when those data were collected by persons under contract to the applicant and listed in the DEIS as a source document, is misleading. These omissions seriously skew the content.

Vashon-Maury Island Community Council

Response

Table 6-2 has been revised in the FEIS to indicate potential herring spawning. Additional mitigation has been added in Section 6.4. The FEIS recognizes potential impacts to certain patches of eelgrass and to a limited section of the sunken barge (prop wash).

Dock construction may affect some eelgrass (potential herring spawning). However, no construction will occur near the sunken barges (lingcod eggs).

Measures to Prevent Spills of Mined Materials

Comment I-17.034

Mitigation makes no mention of addressing possible spills or other damage from the sinking of tug, barges, smaller vessels supporting tug and barge operation.

Putnam, Joshua

Comment O-1.303

It states that the project should be periodically monitored for evidence of spills. What does “periodically monitor” mean? Will Taiheijo Cement Corp. report the results of any spills to King County or any agency? Is there a size limit for spills that trigger an environmental restoration?

Ortman, David

Response

See FEIS Section 6.4.3.12 for further discussion of spill monitoring requirements.

Comment O-1.289

6.4.1 p. 6-17. This section states that the conveyor belt would be equipped with an automatic power interrupt switch. What is the failure rate for this type of device?

Ortman, David

Response

The automatic power interrupt switch is a backup mechanism to help reduce human error. Taken in conjunction with the human operator, the failure rate of a backup switch is not a significant concern. SEPA procedures require consideration of environmental impacts, with attention to impacts that are likely, not merely speculative. Furthermore, “probable” is used to distinguish likely impacts from those that merely have a possibility of occurring but are remote or speculative. The likelihood of a failed backup switch occurring at precisely the same time as human error is “remote” and “speculative”.

Comment What mechanism will be in place to verify the spill tray maintenance and operation of the automatic power interrupt switch? What number and size of violations will trigger remedial action?

Kuperberg, J. Michael, Ph.D.

Comment How frequently will the project be “periodically monitored for evidence of spills”? What will be the procedure and timeline for evaluating and acting upon this information?

Kuperberg, J. Michael, Ph.D.

Response Section 6.4.3.12 of the FEIS includes additional measures to monitor spillage.

Comment A-2.019 (part 2 of 4). Another concern related to spillage is implementing best management practices (BMP). Although the assumption is that the mining operation will operate using BMP’s the incentive may be lacking to actually implement them. In order to operate at maximum efficiency, as much gravel will have to be loaded as is feasibly possible onto the barge. If gravel is loaded above the height of the walls of the barge, especially during storm events, the barge could list and spill additional gravel. The cost of losing the gravel during occasional storm events could be minimal given the overall benefits of maximizing the amounts of gravel/sand to be loaded onto the barge.

Washington Department of Fish and Wildlife

Comment C-6.011 (part 1 of 5). The DEIS says that effective mitigation to reduce spillage will be applied, but does not document where this has been used successfully, and the rates of spillage where mitigation has been effective.

Vashon-Maury Island Community Council

Comment I-7.011 (from section 2.2.3). Then any spillage is a violation, correct?

Meyer, Michael

Comment I-7.012 (from section 2.2.3). What will be the punishment for spillage?

Meyer, Michael

Comment I-7.013 (from Section 2.2.3). Whose liability will spillage be?

Meyer, Michael

Response Further analysis and discussion of spillage are provided in FEIS Section 6.3.2 and mitigation measures are proposed in Section 6.4. These mitigation measures include the possibility of limiting barge loading to 80 percent capacity to avoid spillage. Any spillage at

the site would be the responsibility of the Applicant and mitigation measures would require clean up.

Shoreline Buffer

Comment O-1.290

Bluff/Proposed Action: It states that the applicant would leave a 200-foot vegetated buffer from the beach inland that would continue to provide protection against erosion. What is the current characteristics of the existing 200-foot buffer? How high is the vegetation in this buffer?

Ortman, David

Comment A-1.003

Section 2.2.2 p. 2-4. The 200 foot wide buffer of “naturally vegetated shoreline” should be rehabilitated to provide a positive nearshore habitat contribution. This may include removal of rip rap and non-native debris, and revegetation with native vegetation. We encourage development of a riparian habitat plan integrating components of shoreline access with soft bank erosion control features.

Washington Department of Natural Resources

Response

Section 6.4.3.16 includes mitigation measures that suggest restoring the riparian zone within 300 feet of the shoreline and following WDNR recommendations for shoreline management.

6.4.3 Remaining Adverse Impacts and Additional Measures

General

Comment G-3.028

28. 6.4. Considering the sparcity of information under the Marine Habitat and Fisheries section, the proposed marine monitoring and mitigation plan should be available for public review and comment before the issuance of a permit.

People for Puget Sound

Response

The FEIS Chapter 6 includes more detailed information and improved analysis on marine habitats and potential impacts, and evaluates additional alternative mitigation measures.

Dock-Related Issues

Comment A-1.026

Recycled piling must be in such a condition that no contribution of contaminants to the aquatic environment will occur.

Washington Department of Natural Resources

Comment A-1.004

(repeated in 2.2.3) Section 2.2.3.6 p. 2-8. DNR will require removal of the existing piling in a manner resulting in total extraction of treated wood and minimize resuspension of sediments. The replacement piling for state-owned aquatic lands must be a non-contaminating material. Materials used in repair of the dock decking, stringers, and supporting timbers, must be a non-contaminating material. Project proponents must consult with DNR staff for maintenance and repair of improvements on state-owned aquatic lands.

Washington Department of Natural Resources

Response

Additional mitigation measures in Section 6.4 of the FEIS would require all construction materials to be non-contaminating. Under these mitigation measures, replacement piling would be steel or concrete and removal of existing pilings would be done through “vibratory extraction” to minimize sediment disturbance. Several dock replacement alternatives are discussed in Section 6.4 as well.

Comment A-2.003

Proposed Dock Repairs (general information): To avoid adverse impacts to eelgrass (*Zostera* spp) and Pacific herring spawning habitat from overwater and floating structures, and their associated boat moorages, a minimum 10 foot buffer should be provided between such structures and eelgrass (*Zostera* spp) or documented Pacific herring spawning habitat. To minimize adverse impacts to juvenile salmon and marine fish food resources, juvenile salmonid migratory habitat, and kelp, solid decked areas of overwater and floating structures located between ordinary high water and -10 feet (mean lower low water = 0.0 feet) or over kelp (Order Laminariales) should be limited to a width of 8 feet or less. Decked surfaces greater than 8 feet in width, located in such habitats can result in significant habitat damage and may require mitigation, which is usually difficult and expensive. To avoid such mitigation, any additional width should be covered with grating material that will allow light to reach the habitat below. Alternating bands of decking and grating may be utilized as an alternative. The alternating bands should be equal in width and each band should be a maximum of 8 feet in width. Any grated area should not be used for storage purposes.

Washington Department of Fish and Wildlife

Response Measures to mitigate impacts to eelgrass, juvenile salmon, and herring are evaluated in the FEIS, Section 6.4.

Barge Shading

Comment O-1.293 Barge Shading/Mitigation: This summary states that the applicant needs to conduct additional surveys between 1 June and 1 October for eel grass and bull kelp and that prior to construction, a marine monitoring and mitigation plan would be prepared and a program initiated to monitor eelgrass coverage and density. The public and decisionmakers can not properly review the proposed project without reviewing the mitigation plan.
Ortman, David

Response The FEIS contains monitoring and mitigation information in Section 6.4. The eelgrass survey was completed July 24 and August 1, 1999 and the results are shown in Figure 6-2a. Decision-makers will consider mitigation. Mitigation is within King County discretionary authority under SEPA, and is not subject to public review and comment. King County appreciates public concerns and will consider these concerns when requiring mitigation.

Eelgrass

Comment A-1.006 Eelgrass mitigation may be a requirement of this project. We encourage the proponent to work with DNR and other resource agencies and tribes in an appropriate mitigation plan.
Washington Department of Natural Resources

Response Measures to mitigate impacts to eelgrass are evaluated in the FEIS, Sections 6.4.3.5 and 6.4.3.6.

Propwash

Comment A-1.016

Are there any operational restrictions on boats entering from the landward (shallow) side of the pilings? The monitoring and mitigation plan must include potential propeller wash.
Washington Department of Natural Resources

Response

Mitigation measures in Sections 6.4 would not allow boats to operate on the landward side of the dolphins and pilings. See FEIS Section 6.3.4 for further discussion on the effects of propwash and Section 6.4.3 for additional proposed mitigation measures.

Prevention of Spills of Mined Materials

Comment A-1.011

(part 1 of 3) Section 6.3.2.1 p. 6-8. In light of concerns for protection of critical habitat the upgrades proposed for the conveyor system are essential.
Washington Department of Natural Resources

Comment A-1.012

In the event of accumulated deposition at the barge loading site the project proponent must develop a plan for monitoring and removal.
Washington Department of Natural Resources

Comment A-1.011

(part 3 of 3). DNR will consider including the maintenance/operation plan of the conveyor system and spill tray into the “Plan of Operations” of an aquatic land use authorization.
Washington Department of Natural Resources

Comment A-2.018

(part 3 of 3). WDFW will require that the sand/gravel conveyance system be completely enclosed and the downspout telescope no more than five vertical feet from the landing base. Gravel will not be allowed to be loaded above the height of the walls on the barge.
Washington Department of Fish and Wildlife

Comment I-6.008

Where is the proper oversight to make sure there are no spills?
Gorski, Alan

Comment A-2.019

(part 4 of 4) The WDFW may require dive surveys be conducted by an independent contractor on a frequent basis to document how and where gravel spillage occurs in order to assess any damage to marine vegetative habitats.
Washington Department of Fish and Wildlife

Comment C-8.061

(part 1 of 6). #61 (in part). The EIS states, “To ensure the risks of aggregate spillage remain low, the project should be periodically

monitored for evidence of spills.” This is no assurance at all, and unless there is a specific plan established for such monitoring which is verifiable by independent authorities, this is not even reasonable. Please provide a detailed monitoring plan and identify which agencies will be involved.

Vashon-Maury Island Community Council

Comment O-1.291

6.4.2 p. 6-18. This section states that the applicant has agreed to pay for restoration of any sand and gravel spills. Who would Taiheijo Cement Corp. pay? Who would decide if restoration is needed? What are common causes of sand and gravel spills?

Ortman, David

Comment I-21.034

An auto shut off is ... proposed. How effective might it be? What’s the response time? What if there’s a problem with the auto shut off?

Baker, Alby

Comment I-21.035

(part 1 of 2). Shouldn’t there be personnel monitoring docking and undocking and loading at all times?

Baker, Alby

Comment C-8.061

(part 2 of 6). #61 (in part). The EIS states, “The applicant has agreed to pay for restoration of any sand and gravel spills, and this agreement should be placed as a condition of the permit approval.” Payment for restoration of any sand and gravel spills is not possible. Once the benthic community is smothered and the surrounding eelgrass beds smothered, how can compensation restore these environments? What agreement has been reached to pay for restoration of spills? What is the basis for determining that such payment is required? With whom was this agreement made?

Vashon-Maury Island Community Council

Comment O-1.292

Accidental Spillage/Mitigation: It states that the spill tray would be checked and maintained on a regular schedule. What is a “regular schedule”? Will Taiheijo Cement Corp. report the results to King County or any agency?

Ortman, David

Response

Section 6.4.3 of the FEIS includes further details on proposed mitigation measures to avoid and reduce spillage under the Proposed Action, including plans for monitoring.

Comment C-4.017

What are the limits of weather in which the conveyor can be safely operated and a barge loaded without spillage?

Vashon-Maury Island Community Council/Thomas McKey

Response

Safety of personnel, equipment, and materials is always a consideration for operational limits. Mitigation measures requiring monitoring and compensatory habitat replacement for spillage will provide additional incentive to avoid spillage and/or operation during severe weather that may lead to spillage (see FEIS Section 6.4.3).

Comment I-9.013

The mitigation measures...do not eliminate ...accidental spillage.
Mackey, Cyndy

Response

The mitigation measures are designed to avoid, reduce, or offset potential impacts from the Proposed Action.

Comment C-8.061

(part 3 of 6). #61 (in part). Please provide information regarding literature available regarding restoration/mitigation of eelgrass beds. Please provide information regarding DNR's 1994 position regarding a "no net loss" of eelgrass.

Vashon-Maury Island Community Council

Response

Restoration and mitigation of eelgrass beds is addressed in a series of publications relating to Washington Ferry Terminals (Simenstad et al. 1997). Additional mitigation measures discussed in Section 6.4.3 are designed to achieve "no net loss" of eelgrass, although some temporary net loss would probably occur due to the lag time between the impact and implementation of mitigation measures.

Comment C-8.061

(part 4 of 6). #61 (in part). Further, please provide information as to whether the applicant intends to pay for restoration necessary due to prior sand and gravel spills documented during the EIS process.

Vashon-Maury Island Community Council

Response

The restoration or compensation for past spills and operations is beyond the scope of this EIS.

Protection of Geoduck Harvest

Comment A-1.024

Section 6.4.2 p. 6-18. First bullet — The project proponents should develop an agreement for adequate access to geoduck harvest with the state as well as the tribe.

Washington Department of Natural Resources

Comment A-1.025

The DEIS states, “Access for part of the year near the dock that allows 2 percent annual harvest should suffice.” The goal for harvesting a tract is 80 percent. This is not limited to a 2 percent annual harvest. I think the proponents are getting confused with the 2.7 percent annual regional harvest. There needs to be correction and clarification of this statement.

Washington Department of Natural Resources

Response

The FEIS has been modified to reflect the 2.7 percent annual regional harvest which is typically attained by concentrated harvesting (80 percent) within a tract. The FEIS also indicates that an agreement on access needs to be reached with WDNR and the Tribes or compensation for lost harvest would be required. The Tribes and the WDNR split the geoduck resource 50/50.

Comment C-8.061

(part 5 of 6). #61 (in part). The EIS states that “The Puyallup Tribe will periodically require access to geoduck beds in the vicinity of the loading dock.” The information presented in the EIS is not a harvest plan to which the Puyallups have agreed in writing. There are no specifics, no assurances even that an agreement will be reached that is acceptable to the tribe. This type of vague suggestion of what might be is not specific enough to provide for comment. Please provide a plan for the geoduck harvest.

Vashon-Maury Island Community Council

Response

Geoduck harvest is not part of King County’s action. Please contact the Tribes and WDNR.

Comment G-3.019

(repeated) 19. 6 2 2 2. Section 6 3.2, Accidental Spillage, contains no discussion on the impact to the state budget from losses of revenue from reduced geoduck harvest. All losses of shellfish, commercial and recreational, should at the very least be mitigated- which this DEIS fails to discuss.

People for Puget Sound

Response

The area affected is such a small portion of the area that would be harvested that this loss is not significant. WDNR and the Tribes would still be able to harvest 80 percent of the geoducks. If a suitable agreement is not reached, compensation for lost harvest will be required.

Comment C-8.061

(part 6 of 6). #61 (in part). Please provide information regarding the fact that geoducks are considered a valuable asset on State aquatic lands and discuss this resource in relationship to the Shoreline Management Act. Currently the lack of information regarding this issue in the DEIS adds to the inadequacy of the document.

Vashon-Maury Island Community Council

Response

Section 6.3.6 of the FEIS discusses the proposed project in relation to geoducks. If harvesting agreements cannot be reached with the Tribes and WDNR, compensation for lost harvest would be necessary. The Shoreline Management Act does not promulgate specific regulations regarding geoducks.

Protection of Salmon

Comment G-3.022

22. 6.2.2.7. It is possible that mining and barging activity could kill juvenile chinook salmon as they attempt to migrate along this shoreline. Section 6.3, Impacts, fails to discuss the impacts of noise, light, tugboat operation, and loss of eelgrass on chinook salmon, which are listed as threatened under the Endangered Species Act. At the very least, barging activity should be prohibited during the chinook migration periods.

People for Puget Sound

Response

The FEIS includes further analysis and discussion of potential impacts from noise (Section 6.3.7), light (Section 6.3.9), tugboat operation (Section 6.3.4), and loss of eelgrass (Sections 6.3.1-6.3.4, and 6.3.8). Mitigation measures are discussed in Section 6.4.

Comment G-3.006

(repeated in 6.4.2) 6. Section 2.2.2. The clearing and ground preparation proposal offers to retain a 200-foot vegetated buffer along the marine shoreline. The failure of the DEIS to explain to the public that this is the minimum requirement of the Shoreline Management Act would appear a flagrant attempt on the part of King County to make the applicant appear generous. Nobody yet knows how shoreline buffers will change in response to the ESA listing of chinook salmon—so it would seem prudent for King County to reserve a wider buffer until the chinook 4(d) rule is issued. It is not clear if a 200-foot buffer on this site is adequate to protect the vegetation that is currently supplying prey resources for chinook salmon.

People for Puget Sound

Response

Additional analysis and mitigation in the FEIS include increasing the buffer to address vegetation issues. Further information can be found in Chapter 5 of the FEIS.

Protection of Herring Spawning Habitat

Comment A-1.022

Section 6.4. This section does not address impacts to herring spawning. Simply because the DEIS states that herring spawn is “identified in the vicinity of the Lone Star Northwest dock on Maury Island (WDFW 1995) but not at the site itself” does not exempt the applicants from evaluating the indirect impacts the project will have on adjacent herring spawning. The state and tribes are prohibited from harvesting geoduck on the Maury Island tract during January and February. The DEIS needs to clearly define mitigation for impacts to spawning herring from barge operations between the critical months of January through April.

Washington Department of Natural Resources

Response

Section 6.3.7 in the FEIS includes further discussion and analysis of noise effects on herring in the area. The main spawning area for the Quartermaster Harbor stock is a significant distance from the site and is not expected to be affected.

Reef Habitat (Sunken Barges)

Comment A-1.015

Sensitive habitat is not only “located close to the shoreline”, eelgrass is located under the piling on the north side and adjacent to the landward side of the piling throughout the site. Additionally, the reef habitat created by the sunken barges will need to be protected.

Washington Department of Natural Resources

Comment A-1.010

The reef habitat created by the sunken barges located on the southern end of the piling will need to be protected from damage caused by the proposed operation. The project proponent must develop a plan for on site protection or relocation and mitigation, to be approved by DNR and other affected agencies. No barging activity can be allowed that will threaten or stress the existing utilization of the barges and other structures prior to the successful reef mitigation project.

Washington Department of Natural Resources

Response

The FEIS discusses additional sensitive habitat including eelgrass beds and the sunken barges. Section 6.4 addresses proposed mitigation for the reef habitat provided by the sunken barges.

6.5 Cumulative Impacts

Comment I-9.017

...EIS fails to evaluate “cumulative impacts” of the entire operation as well as other activities in the Puget Sound on the marine environment.

Mackey, Cyndy

Comment C-6.010

(part 2 of 3). The DEIS does not address the cumulative effects of incremental damage to the nearshore habitat in the context of damage that has already occurred.

Vashon-Maury Island Community Council

Comment C-6.013

(part 2 of 4). The DEIS does not address: the ecological linkage between the quality of shoreline habitat and the residence and growth of juvenile salmon; the need for nearshore habitat throughout Puget Sound on their way to and from the ocean and the rivers; the loss of nearshore habitat as a contributing factor in the steep decline of most marine fish populations in Puget Sound; the historic loss of Puget Sound’s eelgrass beds through human activity; the value of the nearshore habitat as a corridor for dispersal of marine organisms and migration of anadromous fish. The DEIS seems to imply that because the habitat is not unique it is therefore not important for species’ survival. The DEIS

disregard the cumulative effect of thousands of incremental activities leading to a substantial decline in many populations of marine life species and probable loss of migratory corridor for juvenile salmon. Statements concerning restriction of construction activities contradict what is shown in Table 6-2. The DEIS does not address increased marine traffic as a probable factor in the recent decline in the local orca population, or the value of the marine waters off the SE shore of Maury Island for winter feeding. The DEIS gives a misleading impression of winter month feeding by orcas off the shores of Maury Island.

Vashon-Maury Island Community Council

Response

Section 6.5 in the FEIS addresses cumulative impacts. The FEIS includes further analysis and discussion of impacts on the nearshore habitat including effects on salmon and other sensitive species. The importance of nearshore habitat and its functional values are recognized in this analysis.

The typical range of the Southern Resident orca community encompasses the entire inland waterways of Puget Sound, the San Juan Islands, and the Georgia Strait in Canadian waters, a vast river-fed estuary known collectively as the Salish Sea. They are known to travel at least 300 miles up and down the coasts of Washington to the south and along Vancouver Island to the north. It is not known how far offshore into the Pacific Ocean they may travel. They usually swim from 75 to 100 miles every 24 hours. There is no indication that the waters off Maury Island represent a preferred or unique habitat for orcas. Additionally, increasing traffic by up to four barges per day does not constitute a significant disturbance within such a large geographical range. Probable factors in the recent decline of orca populations are considered to be related to toxin accumulation and dwindling prey.

Comment C-6.006

(repeated in part). The DEIS does not address the loss of 30% historic eelgrass beds in Puget Sound, nor the need to halt or reverse this trend, nor the implications of this proposed project.

Vashon-Maury Island Community Council

Response

The FEIS addresses the importance of eelgrass as habitat for juvenile salmon and many other organisms. Eelgrass serves a variety of ecological roles. However, the scale of the potential impact, and the proposed mitigation to reduce and/or offset that impact, does not reach a significant level in a regional context. The proposed mitigation is designed to meet the “no net loss” goal recommended by regional managers, although some temporary net

loss would probably occur. Section 6.5 in the FEIS includes additional discussion of cumulative impacts.

Comment I-1.033

That the “project would not contribute to cumulative impacts on the marine environment” as asserted is not supported by any data or information in the document.

Shipley, Frank

Comment I-1.035

... no analysis of impacts to near shore habitats in relation to loss and alteration of eelgrass habitat and other marine resources in the region.

Shipley, Frank

Response

In Section 6.5 the FEIS evaluates the project based on “significant” cumulative impacts. Impacts do exist; however, mitigation measures are designed to avoid, lessen, or compensate for these impacts.

6.6 Significant Unavoidable Adverse Impacts

Comment I-1.029

Impacts to herring and other forage fishes are acknowledged in the text but then inexplicably assigned “no impact”.

Shipley, Frank

Comment I-9.016

The proposed increase in mining and barging of materials will affect salmon in the area. The “no significant effect” decision in the EIS is totally unsupported by the broad (non-site specific) analysis contained therein.

Mackey, Cyndy

Further discussion and analysis of these impacts has been added to the FEIS based on agency and public comments. Criteria that King County consider as indicators of significance for marine impacts are discussed in Section 6.4.1.

6.7 Citations

6.7.1 Printed References

- Anderson, J.J. 1990. Assessment of the risk of pile driving to juvenile fish. Fisheries Research Institute, University of Washington. October. Seattle, WA.
- FishPro. 1989. Maury Island net-pen site characterization survey. Port Orchard, WA. Prepared for Olympic SeaFarms, Inc., Edmonds, WA.
- Kozloff, E.N. 1983. Seashore life of the northern Pacific coast : An illustrated guide to northern California, Oregon, Washington, and British Columbia. University of Washington Press. Seattle, WA.
- Lerman, M. 1986. Marine Biology Environment, Diversity, and Ecology. Benjamin/Cummings Inc.
- McGary, N., and J.H. Lincoln. 1977. Tide Prints. Surface tidal currents in Puget Sound. (Washington Sea Grant Publication No. WSG 77-1.) University of Washington Press. Seattle, WA.
- Phillips, R.C. 1984. The ecology of eelgrass meadows in the Pacific Northwest: a community profile. (Report No. FWS/OBS-84/24.) U.S. Fish and Wildlife Service.
- Schwarz, A.L., and G.L. Greer. 1984. Responses of Pacific Herring, *Clupea harengus pallasii*, to some underwater sounds. Canadian Journal of Fisheries and Aquatic Sciences 41:1183-1192.
- Simenstad, C.A., R.M. Thom, and A.N. Olson. 1997. Mitigation between regional transportation needs and preservation of eelgrass beds. Research Report for WashDOT.

6.7.2 Citations in Comments

See comment letters in Volumes 5 and 6 for references cited in comments.

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